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A-*bio*-ism

No Thing is Alive

Thims



“Let us abandon the word ‘alive.’”

— Francis Crick (1966), *Of Molecules and Men: Is Vitalism Dead?* (pg. 5)

Abioism

No Thing is Alive, Life Does Not Exist,
Terminology Reform, and Concept Upgrade

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A-**bio**-ism: No Thing is Alive, Life Does Not Exist, Terminology Reform, and Concept Upgrade



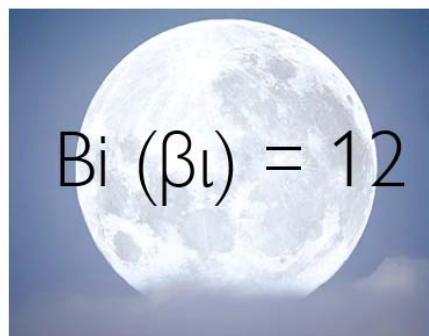
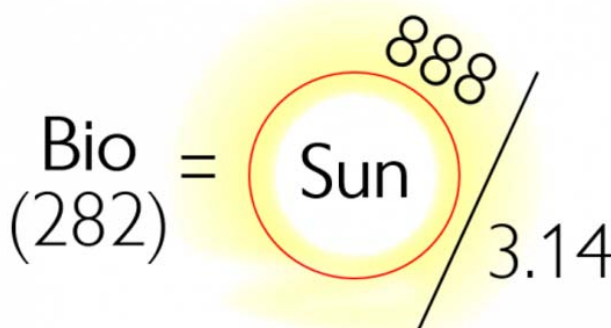
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ISBN: 978-1-312-75459-1

11 Oct **66 AE**

8-hours and **88**-min Post Meridian (9:28 PM) CST



Pages: **218** / Hmolpedia articles: **5,900+**

AE = *Anno Elementum* (Latin) or years ‘After Elements’ were first seen by the human eye.

Atoms were seen by Erwin Muller, at Penn State University, on **11 Oct 1955** (0AE), using his newly-invented field ion microscope. Type of atoms seen: Tungsten W (Z:74). This event marks the ‘**zero year**’ (0AE) in the newly-invented *Thimsian* or *Anno Elementum calendar* (BE/AE), or ‘atoms first seen’ dating system, *devised* by Thims on **25 Apr 2020** (65AE). *Anno Elementum* (**AE**) years are the new secular scientific replacement for the mythical *Anno Domini* (AD) years.

Praise for Abioism

“Thims' *The Human Molecule* [2008] covers the most fundamental change in human knowledge since Charles Darwin's *On the Origin of Species*, by presenting a theory that we are fundamentally ‘molecules’, and that **the ‘question of life’ [?] itself is a fundamentally flawed one**. Especially important is the carefully laid out historical narrative of how Thims came to his theory of the human as a molecule. Whether you ultimately agree with this work or not, it represents a *paradigm shift* in viewing our place in the world.”

— Jeffrey Tuhtan (2011), Amazon Review of *The Human Molecule*, Jan 28

“Human [chemical] thermodynamics is a branch of science that attempts to predict the behavior of people via chemical and thermodynamical equations. It is an interesting philosophy, a *change of paradigm*, perhaps even leaving having a broader explanation for human behavior than Darwinian evolution. Thims, proposed that the idea of Darwin’s ‘dark pond’ which **suddenly sprang to ‘life’, is not a very coherent one**, and that it would be much more creditable and parsimonious to have as a rule that molecules bond and form ever more complex beings. Thims also proposed a ‘human molecule’ where people are attracted to each other by chemical bonds. All this I believe to be a reasonable explanation: even if Darwin’s theory is still correct, the approach of thermodynamics and chemistry is a much simpler, and, at the same time, broader view. If **the concept of biology is somehow redundant**, then we must study it by means of chemistry and physics.”

— David Bossens (2012), *Debates of the Hmolpedians*

“I have always considered thermodynamics to be the most beautiful subject that I have come across. I independently thought of an idea linking life and thermodynamics when I was going through a difficult time during my early twenties. I later discovered that Schrodinger had the same idea 60-years earlier, essentially the idea was that life evades the decay to thermodynamic equilibrium by maintaining ‘negative entropy’ in an open system. Thanks to you I now understand my previous line of thinking to be flawed, and I appreciate the content you are producing on **abioism**.”

— Dan Pohl (2017), “Site Message to Thims”, Hmolpedia, Sep 11

“Kudos to Libb Thims, who I understand is the coiner of the term ‘**abioism**’. The term rocks! :)”

— Jim Crawford (2018), “Introduction”, Abioism blog, Jun 27

“I have been reading your works since some time ago, and I may say I find them very interesting, not merely because of its content, but because it has conclusions and insights I had independently arrived at a relatively young age, one could say I am still at a relatively [age 14] young age [born 52 AE], although I reached some diverging results in some topics. By the age of 6, a time when I was very intrigued by the hierarchical structure of matter, the similarities present in material systems despite the magnitude (which then led to the conclusion social systems were no exception, an early version of my future ‘socio-thermodynamic model’), et cetera, I started *questioning* the nature of ‘life’ and what it really meant to call something a single entity. **I came to the conclusion that ‘life’ was a simplifying device made for categorization purposes in the past**, and that it served for most practical purposes, but now, as our knowledge grows, it becomes *inadequate for more technical research*.”

— Life Pressure 7825 (66AE) (2021), ‘Dialogue on Social-Thermodynamics’, r/Hmolpedia, Mar

“The greatest minds in history. My big influences are in the Hmolpedia top 2000 geniuses and minds list, namely: Goethe, my strongest influence, Newton, Einstein, Leonardo Vinci, and Libb Thims. Thims has influenced me in my: atheism, my determinism; I became interested in thermodynamics; I discovered the work of Goethe; my understanding of intelligence changed; in my work ethic (work hard, study hard, don’t waste your time); in *unlearning* the **idea that I am alive**. **Nothing is**. I learned about Beckhap’s law, the influence of latitudes on the intellect, the way in which books and the search for self-taught knowledge can change the entropy of the body.”

— Zadquiel Lugo (66AE) (2021), ‘On Previous Two Years of Study’, Tweeter, May 4

“Life is an antiquated idea from a time when humans believed in gods and magic. It’s a silly a notion as astrology or vegetables. I appreciate **your** [BE/AE] **calendar**.”

— Friendship Rainicorn (66AE) (2021), ‘People Are Just Atoms Arranged in a Way that They are Able to Study Themselves’, r/Hmolpedia, Aug 12 + Sep 2

“I’m flattered to be included in your *Abioism* book. Perhaps knowledge passed down vocally from parents takes precedence over what we are taught later, and this might explain the continued belief in religious or other supernatural ideas and reluctance to accept new ideas.”

— Alfred Rogers (66AE), curator of **LifeDoesNotExist.com** [2010], Aug 16

“I am so glad that an intelligent person like you who has a different perspective about ‘life’, managed to put all together the bright minds in the world in one place which you named Hmolpedia. I was even impressed that you are redefining and rewriting the ‘concept of life’ according to **abioism**, a concept parallel to my idea of ‘abiozoicism’. In autognorics, I defined *alive* as self-energized, one of the important factors to become living and with life. And of course, as you said there is **no such thing that life exists. I agree with you 100%**. I am also a progressive atheist. But it sounds better to be called an ‘**abioist atheist**’ instead. I love the way you coined it.”

— Joey Lawsin (66AE), ‘Email to Thims’, Aug 23

“I’ve seen your other videos on **abioism**, I’ve been following you for years. I’m presently studying physics. My view on ‘life’, is that just like any other system in the universe we abide by certain physical laws, from our point of view, it seems that we are to a certain extent in control of our actions, but in reality we have as much control as any object we view as ‘lifeless’. The only difference is the seeming complexity of each system. We are just patterns that that perpetuate themselves, the more we can’t predict the movement of a system, the more we tend to think that it has control of its own movement. I’ve read the pdf, great read. I haven’t found much Greek translation errors apart from that the emphasis is often not given to syllables of Greek words and the word ‘*παιδεία*’ [paideia] better translates to ‘education’ or ‘training’ not knowledge. Knowledge is ‘*γνώση*’ in Greek.”

— Louoap Coaoriod (66AE), ‘Entropy Explained to a Child’ (Sep 15) + ‘11 Oct 66AE’ (Oct 9), YouTube, thread dialogue

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“There is **no thing endowed with ‘life’** — from man, who is enslaving the elements, to the humblest creature — in all this world that does not sway it in turn. Whenever *action* is born from *force*, though it be infinitesimal, the cosmic balance is upset and universal *motion* result.”
— Nikola Tesla (1915), ‘How Cosmic Forces Shape Our Destinies’, Feb 7

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Abioism Glossary

“If these **terms**: ‘unit-mass of *living matter*’, ‘resultant of *organic forces*’, ‘continuity of *organic substance*’, etc., biologists have adopted from physics, are used figuratively, we ought to find them **redefined**.”

— Karl Pearson (1892), *Grammar of Science* (§9.1: Relation of Biology to Physics)¹

Section point: Introduce the glossary of workable and or physico-chemically neutral terminology that has been being employed, over the last decade, based on historical precursors, to replace and or upgrade all *life*-defunct or *bio*-defunct words and terms. [length: 11-pgs]

The following table is a **life terminology reform** glossary, showing upgrades, redefinitions or correctly ‘redefined’ (Pearson, 1892) biological terms, and or synonym neutral alternatives, that are presently considered as acceptable, or physico-chemically neutral (PCN), as compared to the now-classified defunct mythical *bio*-based or *vis*-based terms:

	Defunct	Acceptable / Physico-Chemically Neutral	Person	Date
1.	888/ π thing	Heat-powered CHNOPS+ thing	Libb Thims	2021
2.	Alive (feel)	Working like mad	Vincent Gogh	1885
3.	Alive	Animate	Alexander Harvey	1908
4.	Alive	Matter that goes	Erwin Schrodinger	1943
5.	Alive	Reactive	Thims	c.2011
6.	Alive	Existive	Thims	2013
7.	Alive	Reactive existence	Thims	2015
8.	Animal life	Will-animated organized matter	William Thomson	1852
9.	Bio	Powered CHNOPS+	Thims	2015
10.	Biochemist	Chnops-chemist	Thims	2013
11.	Biochemistry	Study of powered CHNOPS systems	Henry Swan	1974
12.	Biochemistry	Study of crawling carbon compounds	Mike Adams	c.1995
13.	Biochemistry	Animate chemistry	Reza Ghadiri	1998
14.	Biochemistry	Powered chnops-chemistry	Thims	2012
15.	Biochemistry	Powered chnopsological chemistry	Thims	2021
16.	Bioethical	Exergonic	Thims	2015
17.	Biogenic elements	CHNOPS elements	NAS	1998
18.	Biography	Existography	Thims	2015
19.	Biological thermodynamics	Chnopsological thermodynamics	Thims	2012
20.	Biological thermodynamics	Thermodynamics of powered chnopsology	Thims	2015
21.	Biological thermodynamics	Thermodynamical study of powered chnopsological things	Thims	2019
22.	Biologist	Chnopsologist	Thims	2012
23.	Biology	Liquid physico-chemistry	Stephane Leduc	1911
24.	Biology	Chnopsology	Thims	2012
25.	Biosphere	External energy-supplied CHNOPS matrix terrestrial region	Henry Swan	1974
26.	Biosphere	Chnops-sphere	Thims	2013
27.	Biothermodynamics	Chnops-thermodynamics	Thims	2013
28.	Birth	Aggregation or joining of atoms	Leucippus	460BC
29.	Birth	Combination or joining of elements	Empedocles	445BC
30.	Birth	Reaction start	Thims	2010
31.	Born	Synthesized	Thims	c.2015
32.	Carbon-based life	Carbon-based biped	Arthur Clarke	c.1980
33.	Dead	TOT-cypher	Goethe	1809
34.	Dead	Inanimate	Alexander Harvey	1908
35.	Dead	Stop moving	Baby Rani	2011
36.	Dead	Deboundstate existence	Thims	2012

37.	Dead	No reaction existence	Thims	2012
38.	Dead force	Potential energy	William Rankine	1853
39.	Death	Disaggregation of atoms	Leucippus	460BC
40.	Death	Separation of elements	Empedocles	445BC
41.	Death	Dissolution of organized matter	John Stewart	1794
42.	Death	Molecular dissolution	Johannes Barandun	1910
43.	Death	Reaction end	Thims	2010
44.	Die	Cease to exist	Thomas Jefferson	1775
45.	Die	Dis-integrate	Paul Aebersold	1949
46.	Die	Analyzed	Thims	c.2015
47.	Die	Deboundstate	Thims	2017
48.	Die	Destate	Thims	2020
49.	Die	Extinguished	Thims	2021
50.	Died	Dereacted	Thims	c.2018
51.	Died	Destated	Thims	2021
52.	Earth-based life forms	CHNOPS organisms	Harold Morowitz	1968
53.	Extraterrestrial life	Extraterrestrial; extraterrestrial being	Carl Sagan	1973
54.	Extraterrestrial life	Extraterrestrial intelligence	Carl Sagan	1973
55.	Human life	External sense-stimulated moving powered automaton	Nikola Tesla	1900
56.	Life	Will to power	Friedrich Nietzsche	1883
57.	Life	Motion resulting from force-born action	Nikola Tesla	1915
58.	Life	Atomic and molecular motion form	Howard Lovecraft	1916
59.	Life	Faculty of reaction	Rene Lubicz	1949
60.	Life	Animate matter	Alfred Ubbelohde	1954
61.	Life	Energy organization	Arthur Clarke	1958
62.	Life	Animate bound state reactive existence	Thims	2007
63.	Life	Reaction existence	Thims	2010
64.	Life	Chemical reaction	Jonathan Dowling	2013
65.	Life	Animate <i>chnops</i> -ological matter	Thims	2013
66.	Life	Powered chnopsological structure	Thims	2015
67.	Life force	Gravito-electromagnetic force	Thims	c.2003
68.	Life force	Electromagnetic fore + gravitation forces	Thims	c.2015
69.	Life thermodynamics	Animate thermodynamics	Sture Nordholm	1997
70.	Live	React	Henry Adams	1907
71.	Lives	Goes	Thomas Huxley	1880
72.	Lives	Goes	Karl Pearson	1892
73.	Lives	Reacts	Thims	2013
74.	Living	CHNOPS+ multi-element energy and heat driven dynamic atomic structure	Kalyan Annamalai	2011
75.	Living	Animate	Thims	c.2015
76.	Living being	Affinity-mediated CHON beings	Henry Clark	1865
77.	Living being	Geared engine worked by the universe	Nikola Tesla	1915
78.	Living force	Kinetic energy	William Thomson	1862
79.	Living matter	Animate matter	John Stewart	1789
80.	Living matter	CHNOPS-based matter	Thims	c.2015
81.	Living organism	Energy transformer	Alfred Lotka	1925
82.	Living perspective	CHNOPS perspective	Paul Keddy	2007
83.	Living substance	CHNOPS+ system	Frank Thone	1936
84.	Living system	Chnopsological system	Thims	c.2015
85.	Living thing	Animate thing	Alexander Gordon	1664
86.	Living thing	Animate thing	Gilbert Lewis	1925
87.	Organic life	CHON + circumstances	Henry Clark	1865
88.	Plant life	Green fire	Vladimir Vernadsky	1926
89.	Protoplasm	CHNOPS entity	Edwin Hill	1900
90.	Un-bioethical	Endergonic	Thims	2015

The glossary table lists historical precursors and forerunners, physico-chemically neutral terms, and or deanthropomorphized synonyms, modern coinings, and newer water-testing stage terms, which have been employed in the last decade. Specifically, these terms have been employed in Hmolpedia, since 2010, and in the articles of the *Journal of Human Thermodynamics*, since 2012, as a matter of editorial policy, and in various online forums and draft articles, thereafter. This abioism glossary table can be used as a goto-reference guide with respect to the ongoing usurpation of the scientifically defunct term *life* and all defunct *bio*-related terms.²

If the reader goes to the online version of the Abioism Glossary, and clicks on the order by date column, they will be presented with the following ordering:

#	Defunct	Physico-Chemically Neutral (PCN)	Person	Date
1	Birth	Combination or joining of elements	Empedocles	445BC
2	Death	Separation of elements	Empedocles	445BC
3	Birth	Aggregation or joining of atoms	Leucippus	460BC
4	Death	Disaggregation of atoms	Leucippus	460BC
5	Living thing	Animate thing	Alexander Gordon	1664
6	Die	Cease to exist	Thomas Jefferson	1775
7	Living matter	Animate matter	John Stewart	1789
8	Death	Dissolution of organized matter	John Stewart	1794
9	Dead	TOT-cypher	Goethe	1809
10	Animal life	Will-animated organized matter	William Thomson	1852
11	Dead force	Potential energy	William Rankine	1853
12	Living force	Kinetic energy	William Thomson	1862

To bring things into focus, we see that by 1862 the terms ‘living’ and ‘dead’ had been fully and successfully usurped from physics and thermodynamics, and replaced with potential energy and kinetic energy, respectively. Let these two rows, #11 (Rankine) and #12 (Thomson) resound in your mind, over and over again, while reading this book. This terminology shift is the gist of the shift presented herein, only scaled up to the organism and social level, in respect to the need to remove objectionable language of exact scientific discourse of organism movements and social phenomena. Rankine and Thomson, in short, removed what might be called ‘folklore language’ from physics proper. This is exactly what we are doing herein. If your mind should become confused, as you read forward, which will likely happen, always refer back to these two successful examples of terminology reforms enacted.

A second point to note, shown bolded in the abioism glossary, is the 1943 Erwin Schrodinger definition of alive, as ‘matter that goes’. This comes from his *What is Life?* lecture. Not shown, is his confused statement that for matter to go, it has to ‘feed on negative entropy’, and that this is the criterion for when matter is alive or in possession of ‘life’. This is incorrect logic. Despite the fact that all of Schrodinger’s physicist associates, including Francis Simon (1943), John Butler (1946), Linus Pauling (1987), and Max Perutz (1987), called bunk on this model, it still persists, as a falsely believed truth.⁹

Glossary origin

This list of abioism-related terms, historically, began to accumulate in 2008, amid definitional confusions surrounding the *inability* to provide an appropriate definition for the term ‘*biothermodynamics*’, for the online article of *biothermodynamics* of Hmolpedia, a *thermodynamics*-based encyclopedia. The following is the 8 Dec 2009 version:

Biothermodynamics

In *thermodynamics*, **biothermodynamics** is study of **energy** and **entropy**, or more generally **free energy, transformations in living organisms**. A classic example of the use of thermodynamics in the study of biological systems is Wyman’s theory of linked functions. Topics include the study of and estimation of the thermodynamic parameters of specific protein-protein, protein-DNA, and small molecule interactions. [1]

The first sentence is an uncited reference to the 1957 book *Energy Transformations in Living Matter* by Hans Krebs and Hans Kornberg, which is based on Gilbert Lewis' 1923 *Thermodynamics and the Free Energy of Chemical Substances*. Krebs and Kornberg's book contains Keith Burton's famous appendix 'Free Energy Data of Biological Interest', listing formation energies: $-\Delta G_f^\circ$, for 88 chemical species, of so-called 'biological interest', i.e. chemicals commonly found *inside* of organisms (or related to organisms). The notation $-\Delta G_f^\circ$ means:

- The negative sign '-' means that the formation of the species was exergonic
- The Delta symbol Δ means 'final' value minus 'initial' value
- The G stands for Gibbs, the eponym of Gibbs 'free energy' or formation energy
- The f subscript stand for 'formation'
- The circle '°' superscript stands for at 'standard temperature and pressure'

Here, we have reduced the word 'living' down into five bullet points. The problem here is that we can also apply these five bullet points to a species such as hydrogen sulfide H_2S , species #50 in Burton's list, a chemical which is generated inside of cells using enzymes, listed with a formation energy 7.89 kcal.

Is H_2S alive? If we follow through the *in-between-the-lines* 'scientific grammar', handed down to us, or rather spoon fed to us as children, as seen in terminology of Burton, those before him, and those after him, it is! To clarify, from Robert Alberty's 2003 chapter §1.1: Brief History of Thermodynamics of Biochemical Reactions, H_2S is indeed a so-called biochemical species:

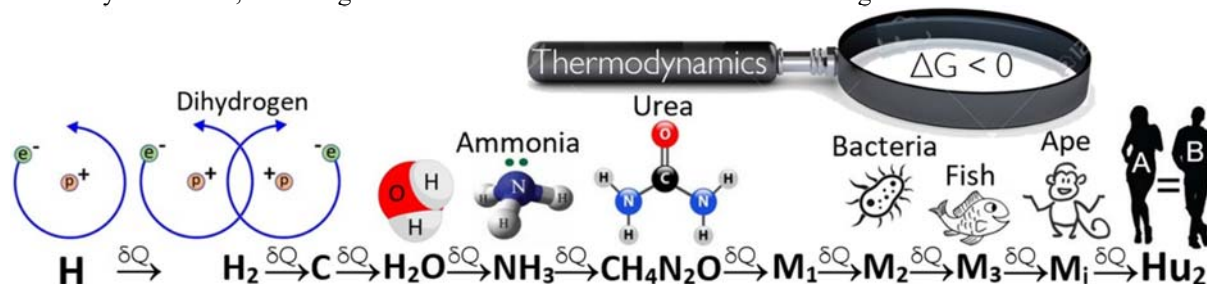
"The first major publication on the thermodynamics of biochemical reactions was by Burton in Krebs and Kornberg, *Energy Transformations in Living Matter*, 1957. Before that time, apparent equilibrium constants had been measured for a number of enzyme-catalyzed reactions, but Burton recognized that these apparent equilibrium constants together with standard Gibbs energies of formation ΔG_f° of species determined by **chemical** methods can yield ΔG_f° for **biochemical species** to make a table that can be used to calculate equilibrium constants of **biochemical** reactions that have not been studied (Burton and Krebs, 1953).

— Robert Alberty (2003), *Thermodynamics of Biochemical Reactions* (pg. 2)

Here, with the prefix of three letters (bio-), we have divided *formation energies* ΔG_f° of all chemical species in the universe into two types: a supposed bio-formation energy [?] and formation energy, and thereby sink into grand confusion. Correctly, formation energy is formation energy. There is no such thing as *bio-formation energy* or 'bio-Gibbs energy'. This is the turning point argument of this book.

H_2S , a bound state of two hydrogen atoms and one sulfur atom, typically existing in the gas state, is, according to Alberty, a biochemical species! Here is where the 'what' comes exploding out of the mind? This 'what' is *what* this book is about. While the majority will not even see the problem, and those who might see it, will dismiss this as but a trivial semantical problem, those rare few, with an acute discernment for reality, will see that this is an ancient problem, whose roots are buried 5,000+ years deep in lost ideas of ancient pyramid sand.

This, to clarify, is not an easy problem to see. Notice how Alberty jumps from 'chemical' to 'biochemical', used twice, with a so-called four symbol card trick ΔG_f° . The mind can become greatly confused by these four symbols (ΔG_f°), to say the very least, not to mention grand amounts of historical confusion resulting from negative sign ($-\Delta G_f^\circ$). This confusion quickly becomes acute, when one attempts to look at things, using the thermodynamic lens, at the higher reaction end scale of the formation of things:



The letter G stands for Gibbs. Einstein aptly characterized Gibbs the smartest person in the history of America. The full derivation of delta G (ΔG) is based on Gibbs' 700-numbered equations, of his *Equilibrium of Heterogeneous Substances* (1876), a book that supposedly, as rumor has it, only Maxwell was able to fully understand. We will be but giving a simplified overview of this herein.

Herein, the species H_2S could just as well be the family complex Hu_2Bc , where Hu is the symbol of one human, and Bc is the symbol of one baby-child, meaning two humans Hu_2 bonded with child Bc . It makes no difference, atomically or thermodynamically, whether the molecule, species, or complex is H_2S or Hu_2C , both, according to particle physics, are but proton-electron geometries in space-time.

The last reference [1] cited above is the 2009 multi-volume *Biothermodynamics* edited by Michael Johnson, associated with the Department of Pharmacology and Internal Medicine, of the University of Virginia, and Jo Holt and Gary Ackers, both associated with the Department of Biochemistry and Molecular Biophysics, at the Washington University School of Medicine. The book itself has chapter contributions, such as: 'Energetic Profiling of Protein Folds' (§11) or 'Thermodynamics of Virus Capsid Assembly' (§14), by 35 authors in total. Ironically, the term 'life', in his 996-page book, is only found one time, in reference to the 'viral life cycle'. Presumably, the thermodynamics of 'bio' is not in anyone's department anymore? The word 'bio' has basically become a three-letter term, which nobody understands, but everybody uses, per reason that it draws grant money.

If one then clicks on the 'living organism' link, which can be done presently using Internet Archive WayBack machine, and going back to the oldest archived version, one is taken to the following description of a living organism, last edited on 27 Sep 2008:

Living organism

In [evolution thermodynamics](#), **living organism** is a commonly used, but ill-defined, term or expression for a type of [molecular](#) structure that is argued to possess the properties of "life" and to take part in the [evolutionary](#) process. The difficulty in using this term is that the idea of life or a "living structure", when viewed from the [molecular evolution table](#) perspective, is a fictional construct that falls apart in definition as one descends down the evolutionary tree to the roots, which are comprised of hydrogen [atom](#) precursors, which are obviously not "living organisms". [1] In this sense, the conception of "[induced movement](#) organisms" becomes a more logical and correct perspective.

The reference [1] cited here is the 2007 two-volume *Human Chemistry* by Thims.

It became apparent, accordingly, in this period, that there were grand insurmountable obstacles and conceptual problems embedded in attempts to define the term 'bio' *thermodynamically*, chemical thermodynamically, or physico-chemically. The 'lens' of thermodynamics sees *movement*, but it does not see life.

The word: **bio**-thermo-dynamics, of the current 5,800-articles of *Hmolpedia*, penned over a 16-year period, totaling 5-million words, 2005 to present, was an anomaly, in need of reconciliation. One word in five-million can quickly become incorrigible, when incongruent to the mind.

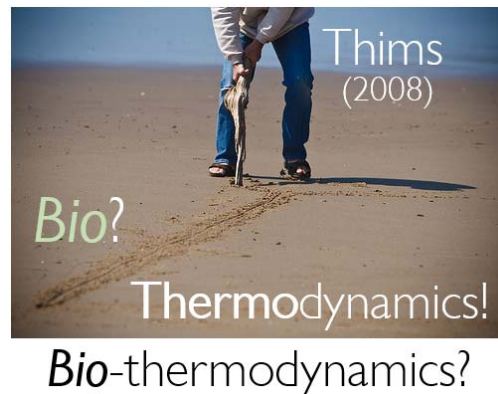
When the implications of this are unraveled, the repercussions are unfathomable, and semantically involved. The following dialogue, gives but a taste of where real-world collisions will, invariably, occur, for those who attempt to engage their mind into abioism:

"There is no 'life', according to you, and yet, in 2010 to 2012, you taught *bio*-engineering thermodynamics, i.e. life thermodynamics?"

— Joshua Nesselroth (2018), 'Dialogue with Thims on atheism and Descartes', Jan 3

Here, to elaborate, Thims, in 2010, 2011, and 2012, gave a lecture, as invited guest speaker, to the *bioengineering thermodynamics* students at the University of Illinois, Chicago. These lectures were given, 'after' Thims had already published the article 'Life: a Defunct Scientific Theory' (Mar 2009), in the *Journal of Human Thermodynamics*, directly attacking Georgi Gladyshev, a Russian physical chemist and author of the 1998 book *Thermodynamic Theory of the Evolution of Living Beings*. This attack led to the 2009 to 2013 defunct theory of life debates, as we will discuss.

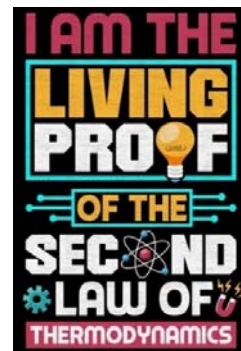
The reason for this confused definitional problem, as Thims came to learn a decade later, is that *bio* (NE:282) is solar magic square based, isopsephy number-word cypher. Accordingly, one cannot, in reality, define *magic* thermodynamically. Hence, the point was reached, in the sand, when universal grammatical reform was in order.



The first three dominate reform terms occurred in 2010 during the construction of the online Goethe timeline, wherein the header titles for the standard colloquial terms: birth, life, and death, were upgraded to the physicochemical neutral terms: *reaction start*, *reaction existence*, and *reaction end*, done as show of respect to Goethe, the pioneer of the physico-chemical approach to evolution of humans from chemicals.³

JHT | Bio-term editorial policy changes

In 2010 to 2012, in the *Journal of Human Thermodynamics* (JHT), a transitional period of editorial terminology redaction, and pressure expungement or barring of life terminology, began to be initiated. Take the recently-made RedBubble.com poster image, shown adjacent, as an example, a statement which has to do with the confused Darwinian evolution and the Planck disorder increase model of entropy. If one were to have submitted a JHT article titled: ‘Humans are Living Proof of the Second Law of Thermodynamics’, as might have commonly occurred, Thims, as editor, knowing in this period that chemical thermodynamics did not recognize the word ‘living’, was forced to either reject the article, or to editorially redact the article, using either a footnote each time the word ‘living’ was mentioned, or to replace or scrub out all *bio*-based or living terms, with physico-chemically neutral terms, before the author’s article could even be allowed into the JHT ‘open peer review’ (public) forum, for discussion.



To go through one example, in early 2010, Georgi Gladyshev submitted the article: ‘On the Thermodynamics of the Evolution and Aging of *Biological Matter*’ for publication. Yet, what exactly is ‘biological matter’ or *living* matter, thermodynamically? As Karl Pearson, in his 1892 *Grammar of Science*, section: §9.1: The Relation of Biology to Physics, informs us, the term ‘unit mass of *living matter*’ **needs to be redefined**. How should thermodynamics redefine *living matter*? Gladyshev’s article was published in April of that year, without any attempted editorial redaction or redefinition by Thims. Nevertheless, back thoughts on this growing terminology problem, editorially, began to swell?

Hence, in this transitional period, as editorial and intellectual integrity began to become apparent, Thims slowly began to redact objectionable terms, in need of ‘physical redefinition’, as Pearson defines things, with footnoted clarifications.

In 2012, to go through another example, Thims got into some dialogue, in Hmolpedia threads, with Richard Egel, a genomics professor with the Department of Biology, University of Copenhagen, about his 2011 article ‘Primal Eukaryogenesis: On the Communal Nature of Precellular States, Ancestral to Modern Life’, published in the MDPI journal *Life*.¹⁰ Egel’s most-cited articles, to give some idea of his mindset, deal with an attempt to explain the order and origin of life using a mixture of complexity theory, thermodynamics, and holism. The following is the key dialogue:

“Re: your article, I don’t know if this is a **rabbit hole** you want to go down, but when you start talking about ‘molecular ecosystems’ (things supposedly ‘not alive’) mixed in with the search for the ‘origin of life’ (things supposedly ‘alive’) sooner or later you will run into the *defunct theory of life* perspective. Namely, that the concept of ‘life’ is a type of residual mythology trying to force its way into chemistry and physics. The following links will give you some guidance on this, being that your preface is soaked with defunct anthropomorphisms (‘self-propelled organic systems’, ‘living matter’, ‘emergence’, etc.). or the term ‘self-propelled organic systems’, e.g., translates as ‘perpetual motion carbon-based system’, which are impossible (as are all perpetual motion machines).”

— Libb Thims (2012), dialogue on Jeffrey Wicken with Richard Egel, Feb 26

Naturally, a journal named *Life* isn’t going to question ‘life’, but rather take it as a matter of fact, a first principle so to say. A journal named *Human Thermodynamics*, however, takes the first law and second law of thermodynamics as first principles.

Correctly, to clarify, the second law does not only NOT recognize the word ‘living’, but in fact proves that *living* does not exist, as will be shown herein. A human, correctly, was brought into existence, by the atheistic powers of the universe, quantified by a formation energy, which is derived in part from the second law and entropy, but the word ‘living’ or *alive* are not terminologies involved in this process. Rather, only varying states of dynamic atomic formations exist, defined by new terms such as reaction energy, formation energy, bond energy, heat, work, and power, etc.

By the time of 19 Dec 2012, when Thims published the 120-page article ‘Thermodynamics ≠ Information Theory: Science’s Greatest Sokal Affair’, the amount of cultural embeddedness with respect to the three-letter term ‘bio’, had amounted to 49 editorial redactions, which were addressed in note 4, shown below, to an article which already had 231 main citation references:

"N4. Regarding the use of the prefix "bio-" (Greek for life), herein, from a physical science perspective, 'there is NO thing endowed with life', as Serbian-born American electrical engineer Nikola Tesla put it in 1915. This was verified by English physiologist Charles Sherrington in 1938 who concluded that the chemical-physics-thermodynamics-atomic perspective "deletes 'life' as a scientific category". The author, as of 2009, has concurred with these views, chemical thermodynamically, concluding that life is indeed a defunct scientific theory." Owing to cultural embeddedness, however, the ubiquitous prefix 'bio-' is retained in the present article in subtle usages including: biomedical, biospheric, biochemist, biophysical chemist, biophysical thermodynamicist, biological, biophysicist, biographer, bioeconomics, bioengineering, etc., in some 49 instances, or in the form of terms such as 'living things', e.g. Goldsmith's quote, above, about how 'Shannon's information theory is inapplicable to living things', France being the birthplace (of thermodynamics), etc. Terminology reform in this area is sorely needed; the author, however, not wishing to fight two battles on one front, is mute on this issue herein, this footnote aside. In lieu of bloating the already extended article with more term reform (in an article already devoted to term reform), we give the following endnote suggested usages: ..."

This footnote, which in some sense was the forerunner to this book, was followed by a list of seventeen 'endnote suggested usages', namely physico-chemically neutral life terminology synonym alternatives for inquiring readers.

In 2015, this editorial issue became so involved, that the gears of JHT eventually came to a halt, partly owing to this terminology reform issue.

Hmolpedia | Bio-terminology reforms

On 23 Dec 2012, building on these original JHT bio-term reforms, the online 'life terminology upgrades' page was started, wherein focused attention was given to historical cases when noted author vacillated on two alternative term usages, e.g. 'living *or* animate', such as seen in Alexander Gordon's *Latin Languages Tournament* (1664), or 'die *vs* cease to exist', as Thomas Jefferson boldly said to the British during the time of America's declaration of independence.

In sum, using the adjacent image as a reference, when we apply the language of the science of matter and energy to subjects of world history and literature, it becomes imperative to speak not only grammatically correct, but also *scientifically*-correct, as Karl Pearson, in his *Grammar of Science* (1885), has advised. A large problem, however, in attempting to do this, is that the scientist who desires to speak scientifically correct about their own movements, is surrounded by an over-grown forest mythology-based folk terminology:



"The scrubby plantation by which mythology sought to screen human ignorance **has become a forest**. In saying that science is at present ignorant as to the ultimate origin of life, we must be careful to allow no metaphysical hypothesis of an 'ultra-scientific cause' to take root. We trust that light will come to science here, as it has come in equally difficult problems in the past."

— Karl Pearson (1892), *Grammar of Science* (pgs. 353-54)

Light has indeed shined on this problem, as Pearson predicted. To get ourselves out of this folklore forest terminology, however, and cogently present the solution, we are forced to rewrite much of the old language, into exact science terms, so to discuss human movements, reactions, and origins cogently:

"Physical chemistry uses mathematical language, and it is a large part of my evangelistic attitude to suppose that **much of developmental biology will someday have to be [re]-written** in much the same **language that physical chemists** use."

— Lionel Harrison (2008), *The Shaping of Life* (pg. 105)

On the surface, it may not be easy to see what Harrison and Pearson are digging at here. To clarify, via a simple example, Werner Stark, in his critical examination of the Albert Schaffle's 1878 attempts to model society as a metabolizing human body, wherein each member of society is defined as a *working* organ of some sort, Stark said the following:

“A comparison, in order to be sound, **must, like a true question, makes sense if you read it from the other side**. But this is precisely what we cannot do here without drifting into absurdity. It may be possible to equate a ‘working’ member of society with a ‘working’ limb of the physical body, but it is impossible to create a normal, i.e. normal ‘working’, organ with a normal, i.e. normally ‘working’, person. What nonsense it would be to speak of: a ‘self-seeking kidney’ or a ‘scheming spleen’ or an ‘egotistic liver’!”

— Werner Stark (1962), *The Fundamental Forms of Social Thought* (pg. 64)

In other words, according to Stark, if one employs universal terms, from say physics or chemistry, e.g. work, mass, or energy, etc., to defined operations in society, they must make sense ‘reading from the other side’. Terms such as: heat, work, mass, energy, movement, etc., ‘read from both sides’, without yielding nonsense, be it from the physiological-side, chemical-side, physics-side, or social-side. We can speak, e.g., of the ‘heat of battle’ in war, just as we can speak of the ‘heat of combustion’ in an engine, with little objection, per reason that both can be quantified in SI units. Terms such as ‘self’ or ‘life’, however, which are *anthropisms*, as Charles Sherrington (1938) classifies them, are NOT readable from both sides.

In reference to the adjacent two-way term readable diagram, while it may have been permissible in the time of Carl Linnaeus, to speak of ‘mineral life’, and how ‘stones grow’, such as found in his *System of Nature: Through the Three Kingdoms of Nature* (1735), we no longer are permitted to speak this way, in grammatically correct scientific discourse.

To speak of a ‘self-seeking atom’, e.g., or a ‘living chemical’, or an *ego*-filled liver, as Stark says, results in objectionable nonsense. The terms *self*, *living*, and *ego*, in short, are anthropic concepts. They are not universal concepts. Hence, when one tries to project them and employ them throughout the universe, or say at the chemical or physiological level, they quickly get rejected from the mind.

Stark, to clarify, is classified as a Catholic sociologist. Thus, while he rightly says that terms, such as ‘work’, to be scientifically correct, must be *two-way readable*, he rejects the real application of his own principle, per reason that his belief system is anchored in religious-based anthropic ideals about how humans have a will that is *free* and a ‘self’ that is home to the presumed-to-be *free* choices made by this will.

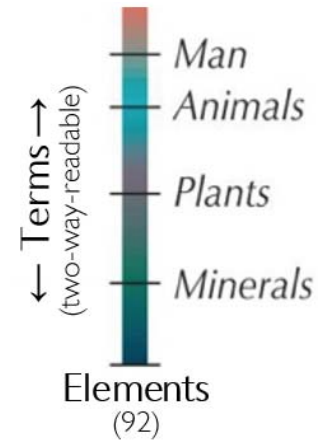
The general reason for the non-two-way readability of terms such as life or self, more often than not, is that they tend to violate some sort of law of science, or they are myth-based. The prefix ‘self’, particularly when employed in terms such as *self*-motion or *self*-organization, as Pearson explained in his *Grammar of Science*, e.g., is a violation of the principle of inertia. The term ‘life’, similarly, is a violation of the principle of the impossibility of perpetual motion and myth-based.

The *abioism grammar table*, of note, is only partially complete, in a crude sense of the manner. It is conjectured that it is missing some 80 percent of new terms yet to come, in the decades and centuries to follow. In other words, a vast number of words are presently missing to express emotional states in a way that does not violate extant laws of the universe.

The parallel scenario of Benjamin Thompson, in his ‘cannon boring experiment’ (1798), and Humphry Davy, in his ‘ice rubbing experiment’ (1799), disabusing the Lavoisier’s term ‘caloric’ (1787) from science, and the 100s of new thermodynamic terms that arose, in the last two-centuries, in the wake, void, or disappearance of the word ‘caloric’, is a case in point. In other words, a thing called *caloric*, at one point, in the minds of many people, including Sadi Carnot, initiator of thermodynamics, was thought to exist and be a real thing. The experiments of Thompson and Davy, however, showed that it did not exist and was not real. The result was that caloric was discarded and upgraded into the new thermodynamic state function called ‘entropy’, done by Rudolf Clausius (1865).

Presently, we still see the term ‘calorie’ in scientific use, defined such that 1 calorie equals 4.184 joules, but the underling Lavoisierian *caloric* model of ‘heat’ as an indestructible fluid-like, weightless, expansion-causing particle, has been completely discarded. Even Carnot, in his latter unpublished notes, admitted he was wrong to have believed in the concept of *caloric*.

Two-centuries from now, in sum, we estimate that a similar solidified **terminology reform** will have accrued with respect to the Greek term *bio*, Roman term *viva*, and Greco-Latin Germanic derived term *life*. The old defunct terms will atrophy, and new terms will grow to fill in the void, yet a few obsolete historical appendages will remain, like the way we speak of *sun rise* and *sun set* or the way we count *calories*.



Terminology Reform

This void-filling principle, historically, has been known by the idiom that *nature abhors a vacuum* (Aristotle, 350BC). In modern terms, it is called the Hooke-Vinci principle (1675), determined experimentally, which states the finding that the ‘vacuum left by fire lifts a weight’.⁴ In social translation terms, the *intellectual vacuum* left by the *social mental fire*, surrounding the terminology reforms left in the wake of the burning of the term ‘life’, will *work*, via force moving bodies through unit distance, to lift the weights of the minds, of the future, to fill the *abioism void*, therein restabilizing the new intellectual structures of future beliefs.

The long and the short of this, is that if you want to understand why and how you ‘move’, how and the way you *originated*, and possibly where you are *going*, in terms of future trajectories, in the language of the terms: heat, force, energy, work, and power, you cannot do so while at the same time believing in the term ‘life’. The latter is non-compatible with the former.

Abioism terminology reform, when put into practice, can be very simple, e.g. the simple switch of a single word usage, in one’s daily dialogue or writing, yet strikingly profound. Shown adjacent, to go through a real-time example, shows three different author profile descriptions, from three different books. The first is Matt Ridley’s 1999 *Genome: the Autobiography of a Species in 23 Chapters*, which Thims attempted to model his writing style and structure on, in his early writing efforts.

The second book is the author profile, from the back cover of Thims’ two-volume 2007 *Human Chemistry* textbook, wherein we see that Thims simply duplicated Ridley’s method of saying ‘he lives in England’ by stating that Thims ‘lives in Chicago’. This amounts to saying, as we will learn, that Thims has the ‘vis of Venus in him, in Chicago, where the atoms of his body are located, which gives him movement’, or something along these lines.

The bottom book is the back cover *author profile* of Thims’ 2013 semi-drafted *Purpose: in a Godless Universe* book, which made it only to the stalled-out partial completion 105-page level, with pdf-versions passed around online.⁷ The key point, to note here, in comparing the three author description versions, knowing that Matt Ridley and Libb Thims are real things, i.e. bodies comprised of atoms, measurable by science, is that the sentence: ‘he *lives* in Chicago’ was changed to: ‘he *reacts* in Chicago’. Thims, in short, was ignorant of the abioism terminology suggestions, historically, in 2007, but by 2013, had begun to amend his writing to better fit reality, as we now understand things. There is no reason, in plain speak, to write stupid nor to sound stupid!

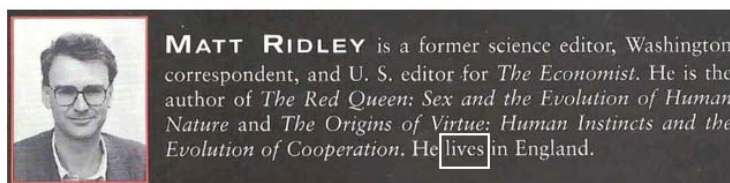
The reader of this book can easily employ the same changes in their daily goings on. This can be as simple as saying ‘I *reside* in Rogers Park’ instead of saying: ‘I *live* in Rogers Park’ in daily conversation.

Or when someone asks you: ‘what do you do for a living?’, you can respond: you mean ‘what do I do for work?’. This can then lead into the retort that ‘*living* isn’t a real word, it is a mythical word, derived from the *vis* of Venus’, or something along these lines, depending on what you take away from reading this book. If Maxwell were to have replied to the question, he might have said: ‘the forces that move me, determine the particular go of what I do’, in so-called Maxwellian logic.

The abioism terminology table, affixed to the head of this opening book section, as well as the updated online-version, will facilitate this defunct language reform.⁶ Nobody, in short, wants to sound ignorant. The following beautiful statement by Michael Faraday, in respect to the ‘forces of nature’, best exemplifies this wonderous new view that one obtains when one begins to think about how they move about from place to place, according to the forces of nature, par excellence:

“Let us now consider, for a little while, how wonderfully we stand upon this world. Here it is we are born, bred, and live, and yet we view these things with an almost entire absence of wonder to ourselves respecting the way in which all this happens. So small, indeed, is our wonder, that we are never taken by surprise; and I do think that, to a young person of ten, fifteen or twenty years of age, perhaps the first sight of a cataract or a mountain would occasion him more surprise than he had ever felt concerning the means of his own existence: How he came here; how he *lives*; **by what means he stands upright**; and through what means he **moves about from place to place.**”

— Michael Faraday (1859), *On the Various Forces of Matter* (pgs. 2-3)



1999



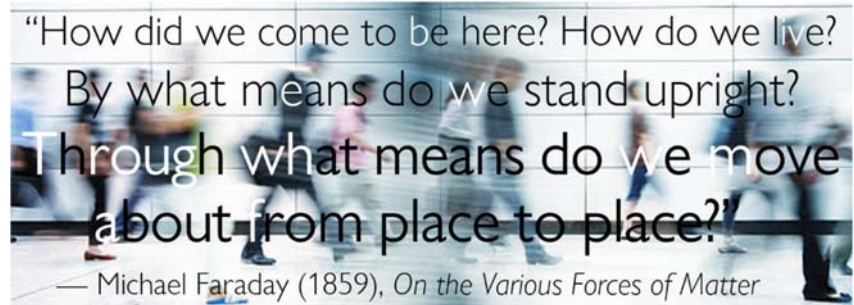
2007

Libb Thims | American electrochemical engineer, thermodynamicist, and noted author of the 2007 textbook *Human Chemistry*, the 2008 history booklet *The Human Molecule*, and creator of the popular wiki *Hmolpedia* (EoHT.info), a free online encyclopedia of the physics, chemistry, and thermodynamics of human existence. He reacts in Chicago.

2013

By what means indeed does a person stand upright? Through what means indeed a person move about from place to place? The unenlightened person will say they move about from place to place because they are ALIVE and they ‘choose’ to move from place to place! The adjacent image shows people standing *upright* and moving forward, from *place* to *place*. Why do they do this? Certainly not because of the have the *vis* of Venus in them! The *vis* of Venus is the etymological root of the English word *alive*.⁸

Correctly, one of the principles by which a person moves about from place to place is called the principle of inertia, or the first law of motion, as Karl Pearson (1892) so intelligently informs us, in respect to those who think they move about by some self-principle. Faraday continues:



“We come into this world, we *live*, and depart from it, without our thoughts being called specifically to consider how all this takes place; and were it not for the exertions of some few inquiring minds, who have looked into these things, and ascertained the very beautiful laws and conditions by which we do live and stand upon the earth, we should hardly be aware that there was anything wonderful in it.

These inquiries, which have occupied philosophers from the earliest days, when they first began to find out the laws by which we grow, and exist, and enjoy ourselves, up to the present time, have shown us that **all this was effected in consequence of the existence of certain ‘forces’**, or abilities to do things, or powers, that are so common that nothing can be more so; for nothing is commoner than the wonderful powers by which we are enabled to stand upright: they are essential to our existence every moment.”

— Michael Faraday (1859), *On the Various Forces of Matter*

In sum, the means, through which these processes actuate and come into existence, according to Faraday, is ‘force’. James Maxwell (1862) built on the ideas of Faraday to derive the electromagnetic force, which is what light is comprised or made of. The unit of force is ‘newtons’ or $\text{kg}\cdot\text{m}/\text{s}^2$. The modern person is thus faced with three alternatives:

- (a) Believe in *life*, divine, non-divine, or whatnot.
- (b) Believe that *life* can be explained in units of $\text{kg}\cdot\text{m}/\text{s}^2$.
- (c) Not believe in life, but instead believe in the existence of *force*, measured in units of $\text{kg}\cdot\text{m}/\text{s}^2$.

Herein, we will be pursuing alternative (c) and rejecting the former alternatives (a) and (b). In respect to option (b), *life*, aka the ‘force (*vis*) of Venus’, as we will explain, which is the etymological source of the word ‘lives’, cannot be defined in units of $\text{kg}\cdot\text{m}/\text{s}^2$. This is the confused root of our problem.

On an aside, there are some, e.g. Balfour Stewart and Peter Tait, in 1875, who will argue, cogently in some cases, that *force does not exist*. This digression, however, would be an entirely different arena.⁵

What we do know, however, is that the product of a force and a distance, through which a force moves a body, yields a quantity called ‘energy’, that we do know exists, and is conserved, as it has been measured by experiment, as was done in great detail by James Joule in 1843. Herein, accordingly, our aim is simply to disabuse blatant mythology and anthropomorphism from the table of the quantifiable SI unit language of our discussion.

Synopsis: Use the ‘abioism glossary’ table, presented herein and online, as a go-to reference, for your mind.

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Molecular Evolution Table

“Hydrogen is a light, odorless gas, which, given enough time, turns into people.”

— John Wiley (1995), 'Phenomena, Comments, and Notes', *Smithsonian Magazine*, Dec

Chapter point: Explain how no 'bio' row is found in a molecular evolution table. [length: 7-pgs]

In 2005, Thims, in an online page of HumanThermodynamics.com, published the following *molecular evolution table*, shown molecular *form change*, hydrogen to human, each row being in increase in one element count, each species shown with their molecular formula:

Origin of Species

Species: Hydrogen to Human

[by species 'element' count]
(Thims, 2005)

Molecular Evolution

Selection Method: Free Energy Change

Sub-atomic

H_2	1	Hydrogen 3×10^5 YA Bang
H_2O	2	Water 2×10^8 YA Bang
CH_4O	3	Methanol
CH_4ON_2	4	Urea
$C_{10}H_{16}O_{13}N_5P_3$	5	DNA
$C_{21}H_{36}O_{16}N_7P_3S$	6	Coenzyme A
$C_4H_3O_2NS_2NaI$	7	Species B 4400 MYA
$C_{E3}H_{E3}O_{E10}N_{E10}P_{E2}S_{E2}Ca_{50}K_{50}$	8	Virus  4200 MYA
	9	
$C_{E5}H_{E5}O_{E4}N_{E4}P_{E2}S_{E2}Ca_{E2}K_{E2}Cl_{E2}Na_{E2}$	10	Species C
	11	
$C_{E7}H_{E7}O_{E6}N_{E6}P_{E4}S_{E4}Ca_{E4}K_{E3}Cl_{E3}Na_{E3}Mg_{E2}Fe_{E2}$	12	Pro-Bacteria 4000 MYA
	13	
	14	
$C_{E10}H_{E10}O_{E10}N_{E9}P_{E8}S_{E8}Ca_{E8}K_{E6}$ $Cl_{E6}Na_{E6}Mg_{E6}Fe_{E5}Si_{E4}Mn_{E2}Co_{E2}$	15	Bacteria (Prokaryote)  3000 MYA
	16	Cyanobacteria  1900 MYA
	17	
$C_{E16}H_{E16}O_{E16}N_{E15}P_{E14}S_{E14}Ca_{E14}K_{E12}Cl_{E12}$ $Na_{E12}Mg_{E12}Fe_{E11}Si_{E10}Cu_{E9}Mn_{E8}Se_{E8}Co_{E7}$	18	Eukaryote 1500 MYA
	19	800 MYA Choanoflagellate 
	20	
	21	Flatworm  550 MYA
$C_{E22}H_{E22}O_{E22}N_{E21}P_{E20}S_{E19}Ca_{E20}K_{E18}Cl_{E18}Na_{E18}Mg_{E18}$ $Fe_{E17}F_{E17}Zn_{E16}Si_{E16}Cu_{E15}I_{E14}Mn_{E14}Se_{E14}Mo_{E13}Co_{E13}V_{E12}$	22	Fish  460 MYA
	23	Reptile  300 MYA
$C_{E26}H_{E26}O_{E26}N_{E25}P_{E24}S_{E23}Ca_{E24}K_{E22}Cl_{E22}Na_{E22}Mg_{E22}Fe_{E21}$ $F_{E21}Zn_{E20}Si_{E20}Cu_{E19}B_{E19}I_{E18}Mn_{E18}Se_{E18}Cr_{E18}Mo_{E17}Co_{E17}V_{E16}$	24	Monkey (old world)  16 MYA
	25	A. Afarensis  3.9 MYA
$C_{E27}H_{E27}O_{E27}N_{E26}P_{E25}S_{E24}Ca_{E25}K_{E24}Cl_{E24}Na_{E24}Mg_{E24}Fe_{E23}F_{E23}$ $Zn_{E22}Si_{E22}Cu_{E21}B_{E21}I_{E20}Sn_{E20}Mn_{E20}Se_{E20}Cr_{E20}Ni_{E20}Mo_{E19}Co_{E19}V_{E18}$	26	Human  200,000 YA

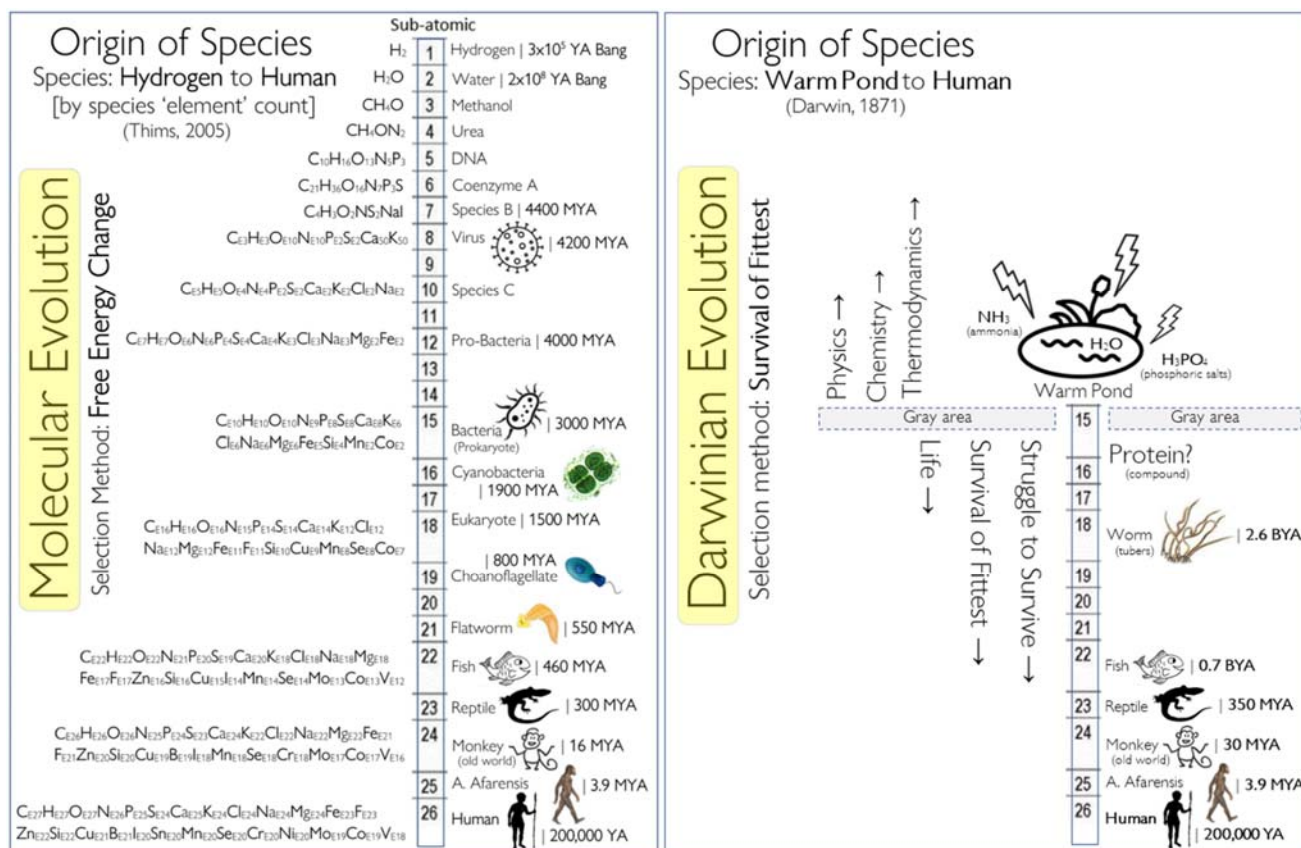
In this table, each species is shown with its characteristic molecular formula. Water, e.g., is a 2-element species, formula: H_2O , a virus is an 8-element species, formula: $\text{C}_{10}\text{H}_{10}\text{O}_{10}\text{N}_{10}\text{P}_{100}\text{S}_{100}\text{Ca}_{50}\text{K}_{50}$, a fish is a 22-element species, formula shown, a human is a 26-element species, formula shown.

Originally, this started in 2002 when Thims calculated the molecular formula for a human, finding a person to be defined as a 26-element molecular species, as shown above (row 26). Thims, in the years to follow, began calculating molecular formulas for species humans were said to have evolved from over time. This resulted in the table shown above.

Formation energy

The amount of energy required to form each species its *formation energy* ΔG_{298}° , short for ‘free energy of formation’, a logic developed by Gilbert Lewis (1923). This formation energy is the value of the Gibbs energy ‘change’ associated with synthesis of a chemical species, be it a hydrogen molecule H_2 or humanide species, from the elements at standard state (STP).

In 2006, Thims, with the Lewis framework in mind, while drafting the chapter §5: Molecular Evolution, of the two-volume *Human Chemistry*, presented the molecular evolution table, and gave a basic outline of selection of species over time, according to how species are selected chemically thermodynamically, i.e. according to the spontaneity rule of chemical reactions, as explained by Lewis. It was at this point that the standard Darwinian model, shown below right, came under direct conflict with the new chemical thermodynamics view of natural selection, shown below left, particularly in respect to there having to be some ‘special’ lightning bolt day that started the mechanism, and the concept of ‘life’ in particular:



In 1892, Karl Pearson, in his §9.12: ‘Natural Selection in the Inorganic World’, addressed both the origin of life problem and Darwinian problem at the same time:

“**There is a problem**, however, with regard to ‘natural selection’ which deserves special attention from both physicist and biologist, namely: Within what limits is the Darwinian formula a valid description? Assuming the spontaneous generation of life as a plausible, if yet unproven, hypothesis, where are we to consider that selection as a result of the *struggle for existence* began?”

— Karl Pearson (1892), *Grammar of Science* (pg. 356)

In modern terms, if each species, ordered in 26 rows or steps of mass elemental increase, can be defined by formation energy, from the elements, at standard state, thereby providing for a universal view of the origin of species, then why should any particular row be defined as being ‘alive’ or be the *start of life*?

Subsequently, in 2006, in Thims' mind, then aged 34, just as did the problem bubble in Pearson's mind, then aged 38, the question of how to define 'life' in respect to gradations of 'inorganic-to-organic' matter (Pearson) or powered levels of form-changing 'inanimate-to-animate' molecules (Thims), became problematic. The question of where exactly the point of 'life' started, in respect to rows 1 to 26, in the new chemical reaction scheme things, was concluded to be a question that led to a 'backwards logic' type of thinking, e.g. that RNA is alive, whereas aspartic acid is not alive, and 'clearly ridiculous' conclusions, e.g. that there was a 'spark day' in the earth's past, say 4.4 to 3.85 billion years ago (BYA), i.e. rows 7 to 15, when molecules suddenly 'came alive'.

To skirt the bubbling issue, at this point in Thims' ongoing publications, a human was simply defined as a heat-fluxed 26-element reactive molecule. The term 'life', as a defining term, was no longer needed, and thereby dropped out of the equation or description of things.

Regarding Definitions

In the 'formation energy' view of things, hydrogen to human, as touched on above, the terms *life*, *alive*, and *bio* become problematic. This is not an easy problem or issue to see through. To guide us through the haze, we have Alfred Lotka's 1925 book *Elements of Physical Biology*, the first chapter of which is called 'Regarding Definitions'. Lotka was trying to write a book about the movements and behaviors of animals, insects, and ecology according to physics. By titling his book 'physical biology' he was thus setting himself up for definitional quagmire from the get go.

Firstly, Lotka tells us directly that what we now refer to as 'biological' nomenclature, namely terms, such as life, and organism names, such as plant or animal, comes from the opening chapters of the Bible:

"The writer of the book of *Genesis* shows good judgment. Our legendary forebear, the originator of the first 'biological system of nomenclature', sees each creature first, and thereupon names it."

— Alfred Lotka (1925), *Elements of Physical Biology* (pg. 4)

Biblically, we are told that vegetable life was made on day three, light was made on day four, swimming and flying creatures were made on day five (because land had not yet arose, per Nile flood theory), and on day six land creatures and humans were made, and the first human, called Adam, was brought to 'life' by the 'breath of god', thereafter becoming a 'living being'. Now, as god is a myth, so to is any property said to be giving to humans by the said myth. In this case, the said mythical property is 'living'. Living is a mythical property. Hence, when we attempt to define a mythical property scientifically, we arrive at objectionable nonsense and or a confused mindset

The Genesis creation myth, itself, to note, is a monotheistic rescript of two early polytheistic Egyptian creation myths, such as seen in the 310BC Nesi-Amsu Papyrus (version A), below left, as compared to its Genesis rescript, below right:

Egyptian Creation
[Version A]
Nesi-Amsu Papyrus (310BC)

em-khet	aref	sam-na	at-a	rem-na
After	therefore	I had united	my members	I wept
over them, [and]	came into being	men and women	from	the tears
[which] came forth	from my eye,			

Genesis 1.26-27
King James Version (1600BC)

And god said, Let us make man in our image, after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth. So god **created man in his own image**, in the image of god created he him; **male and female** created he them.

Myth version aside, we have been given the word 'life', as children, and simply told that it exists and that we are in possession of it, and thereafter have set about trying to find or discover the thing that should answer that name:

"We have not always been equally wise. Sometimes we have tried to invert the method; we have found or made a name, and then *gaily set forth on an expedition* to discover the thing that should answer to that



name; we have **hunted the Jabberwock**. Forgetful of the wisdom of Mephistopheles: 'Because wherever thoughts are missing, a word comes in at the right time'."

— Alfred Lotka (1925), *Elements of Physical Biology* (pg. 4)

In other words, owing to our ingrained cultural and religious predispositions, we have the name 'life' and we also have the new physico-chemical view of things, and we 'gaily set forth on an expedition to discover the thing that should answer to that name'.

When a 'name' has no fundamental basis, however, the expedition is what Lotka calls Jabberwock hunting. A Jabberwock, shown below, is an 1871 fictional monster, with red eyes, biting jaws, and catching claws, invented by Lewis Carroll. The Jabberwock, is described in a poem entitled 'Jabberwocky', shown below, which is read by Alice, after coming out Wonderland, but then going *Through the Looking-Glass*, a magical mirror of sorts.⁵ In this poem, the majority of words are nonsense words, without meaning, kind of like what child might babble in Old English. Only a few words, e.g. bite, catch, eyes, flame, blade, head, slain, joy, etc., have real meaning, the rest are Jabberwock words. Lotka says that one who attempts to discover the thing that answers the name 'life', the solution they arrive at will be a Jabberwocky like answer.

Secondly, Lotka says that in many cases we have a name, such as *life* or *alive*, not knowing where these words came from, but willing to defend them, often times in a very vicious manner, owing to predisposed inherent bias:

"We have given way to an inherent bias of the human mind described in characteristic fashion by Herbert Wells: **when we have a 'name'** we are predisposed and sometimes it is a very vicious predisposed onto imagine forthwith something answering to the name. If I say 'wodget' or 'crump', you find yourself passing over the fact that these are nothings, and trying to think what sort of a thing a wodget or a crump may be. You find yourself insensibly, by subtle associations of sound and ideas, giving these blank terms attributes."

— Alfred Lotka (1925), *Elements of Physical Biology* (pg. 4)

We are willing to defend the wodget! Even though we do not know what 'wodget' means? We are willing to defend the bio! Even though we do not know what bio means? We are willing to defend the right to life! Even though we do not know what life is? We frequently say I'm alive! Even though we have no idea what alive might be? Lotka also points out the fact that just because a word or term is found in the vocabulary, does not mean that the thing meant by the word or term actually exists in nature:

"So the biologist of the past generation, finding in his native vocabulary the words 'animal' and 'plant', forthwith proceeded in an effort to establish precise distinctions between animals and plants, never giving any thought, it would seem, to the fact that these names had already been **parceled out generations ago**, by '**popular**' consent, by unscientific persons without any regard to fine distinctions. There is clearly, here, the tacit assumption that because two distinct words are found in the vocabulary, therefore two correspondingly distinct things exist in nature."

— Alfred Lotka (1925), *Elements of Physical Biology* (pg. 4)

Lastly, we are told that the search for the essential distinguishing feature that separates living from nonliving is another hunt for a Jabberwock.

"Is not the perennial debate between vitalism and mechanism a quibble about words? Is not the whole situation summed up accurately in the words of Lyman Briggs: 'The mechanism of plant processes not at present explainable on a physico-chemical basis would be termed by the vitalistic school 'vital', by

Jabberwocky

Lewis Carroll
(1871)



'Twas brillig, and the slithy toves
Did gyre and gimble in the wabe:
All mimsy were the borogoves,
And the mome raths outgrabe.

"Beware the Jabberwock, my son!
The jaws that bite, the claws that catch!
Beware the Jubjub bird, and shun
The frumious Bandersnatch!"

He took his vorpal sword in hand;
Long time the manxome foe he sought—
So rested he by the Tumtum tree
And stood awhile in thought.

And, as in uffish thought he stood,
The Jabberwock, with eyes of flame,
Came whiffling through the tulgey wood,
And burbled as it came!

One, two! One, two! And through and through
The vorpal blade went snicker-snack!
He left it dead, and with its head
He went galumphing back.

"And hast thou slain the Jabberwock?
Come to my arms, my beamish boy!
O frabjous day! Callooh! Callay!"
He chortled in his joy.

'Twas brillig, and the slithy toves
Did gyre and gimble in the wabe:
All mimsy were the borogoves,
And the mome raths outgrabe.

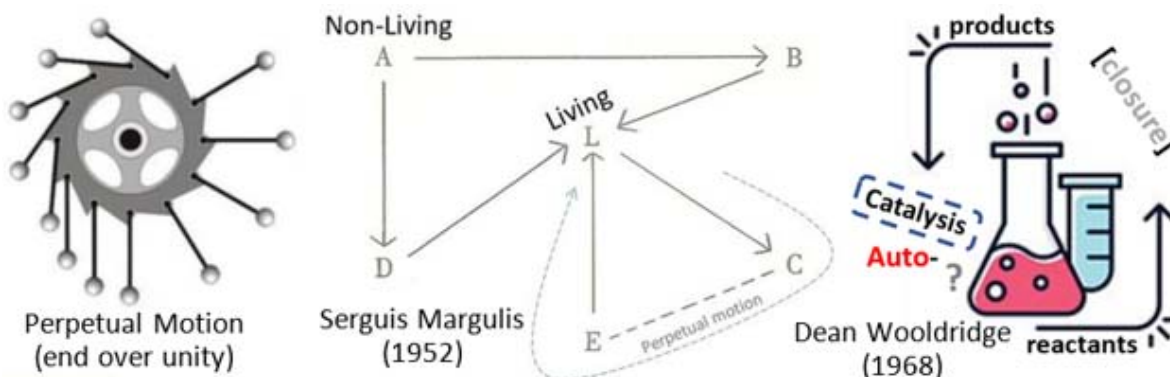
the physico-chemical school ‘unknown’? And in **searching for the essential** characteristics of life, those that should finally and conclusively **distinguish the living from the nonliving**, are we not just searching for the thing in nature that should correspond to a word in our vocabulary? **Are we not hunting the Jabberwock?**”

— Alfred Lotka (1925), *Elements of Physical Biology* (pg. 7)

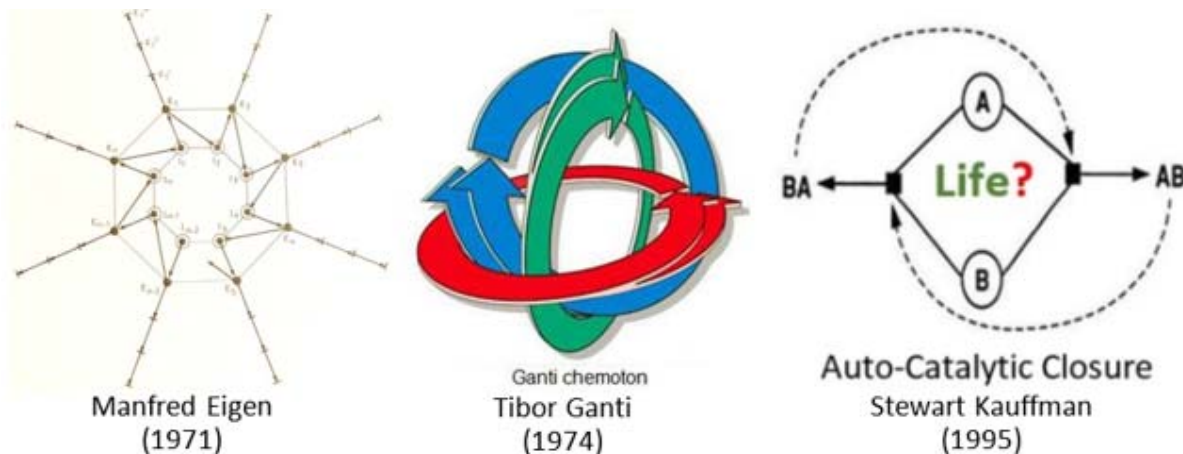
The blade, used to slay the so-called ‘life Jabberwock’, referred to by Lotka, is ‘physics’. When, subsequently, in modern terms, nearly a full-century since Lotka outlined these basic rules regarding definitions, we attempt to go hunting up and down the molecular evolution table, in search of the ‘living / nonliving divide’, to find the ‘origin of life’, we have become but a Jabberwock hunter! The literature produced by these types of Jabberwock hunters, is called origin of life research, which like Carroll’s poem, will be filled with a few real terms, but the rest will be Jabberwocky.

Chemical perpetual motion

What you will find, when you go objectively researching into the origin of life sphere of scientific ideas, is that since about the 1940s, give or take, in order to make find a patch solution, to this gray area band of how life can come from nonlife, so to stay true to Darwin’s warm pond model, is that thinkers have invented so-called chemical perpetual motion theories of the living kind, as shown below, per decade.⁴ At top left, we have a standard ‘end over unity’ perpetual motion wheel, which claims to get more work out than what went in, which are science fiction devices that have been concocted for over a thousand years. An end over unity chemical perpetual motion reaction wheel claims the same thing, only it claims to get ‘life’ out, at one the end of a reaction cycle, where ‘no life’ went in. Top center is the Margulis feedback reaction loop perpetual motion model. Top right is the Wooldridge auto-catalysis perpetual life motion theory:



Three more recent chemical perpetual motions models are shown below:



Above left, is the Eigen ‘hypercycles’ theory of self-organized matter. Above middle is Tibor Ganti’s so-called ‘chemical automaton’ or chemoton theory, as he calls it. Above right is Kauffman’s auto-catalytic closure perpetual motion theory that becomes alive when it ‘catches fire’, as he says.

Herein, we will not waste our time reading through the details of all these perpetual motion of the living kind theories, as the author has already done that for you, by wasting a decade of his own time. We simply point out the alternative path, for those readers who like perpetual motion theories and, for whatever reason, want to try salvage the word 'life'. No doubt people will be seeing these types of life perpetual motion theories attempted for centuries to come.

In 2009, Thims engaged into debated with Georgi Gladyshev, author of the 1997 *Thermodynamic Theory of the Evolution of Living Beings*, on the question of the origin of life, defined thermodynamically. Thims, in short, questioned Gladyshev as to when, how, and on what day, specifically, chemically reacting atoms and molecules became a 'living being', according to the viewpoint of chemical thermodynamics, and chemical reactions and Gibbs free energy being the measure of form change of species.

Gladyshev deflected the question, saying that 'chemical evolution' smoothly merges into 'biological evolution'. Thims rejected this view, as it is (a) paramount to saying that the hydrogen atom is 'sort of alive', which amounts to the panbioism position, (b) leads to the further absurdity that fermions and bosons, the components of atoms, are alive in some way, and (c) reduces to nonsense when one attempts to argue that say 'row ten', previous table, was the location of the first 'living being', when examined chemical thermodynamically, i.e. in terms of formation energies, in the reaction mechanism sense of things. This ignited the defunct theory of life debate, involving dozens of people, lasting until 2013.

In 2012, Thims, as editor of the *Journal of Human Thermodynamics*, began to initiate so-called 'life terminology upgrade protocol' editorial rules for all submitted articles, to the effect that all articles, prior to going into the open peer review process, had to be editorially redacted and formatted, with words written using physico-chemically neutral terminology, so to be grammatically correct, scientifically, uniformly readable to all, and free of anthropism-bias.

On 28 Jun 2016, Thims gave a 16-min talk entitled 'Lotka's Jabberwock: On the 'Bio' of BioPhysical Economics', at the 7th BioPhysical Economics Conference, University of District of Columbia, Washington, DC. In this talk, Thims, building on Alfred Lotka's 1925 'Regarding Definitions', of his *Elements of Physical Biology*, outlined the condensed basics of the view, arisen by a handful of key minds, in the last century, including: Tesla, Charles Sherrington, and Francis Crick, that modern physics and chemistry no longer recognize the word 'bio'. This talk, available on YouTube, was a stepping stone to this book.²

Accompanying Thims' 2016 talk, was a short video, entitled 'Life Does Not Exist', made for the conference by Alfred Rogers, author of the 2013-launched website LifeDoesNotExist.com.³ Rogers 'Life Does Not Exist' video and Thims' talk 'On the Bio of Biophysical Economics' should be consulted while reading this book.

On 17 Sep 2019, Thims, during his interview of Mirza Beg, in Karachi, Pakistan, about his 1987 *New Dimensions in Sociology: a Physico-Chemical Approach to Human Behavior*, showed by the online molecular evolution table, and dialogued with Beg about his reaction to this table, in respect to evolution, origin of life, abioism, panbioism, and Lotkian terminology reform. The reader is encouraged to watch this video dialogue.²

In Jun 66AE (2021), at the start of writing this book, via a previous decade-long process of online life terminology cleaning, all 5,700+ articles of Hmolpedia had been re-written using complete physico-chemically neutral (PCN) terminology.⁶ Thims, in other words, paraphrasing the opening Hecht quote to this chapter, upon coming across the philosophy of chemical thermodynamics (1995) as applicable to the humanities, noticing that 'life' therein was not attached to anything, shook the text of all 15-volumes of *Hmolpedia* until 'life' fell out.

The details of this shaking process, i.e. the full subject matter of *abioism*, historical and present is scattered in the works of many historical authors, dozens of recent books, articles, and blogs, several videos, and hundreds of thread debates, and possibly thousands of encyclopedia paragraphs and footnotes. This scattering led to the need to collect all of this diverse material, so to collate it all into a summarized book format, for the sake of uniformity of information, in respect to a new and enlightening way of looking at the universe.³

Synopsis: Abioism started in 2006 from study of the molecular evolution table. If one attempts to find the origin of life, on molecular evolution table, the result will pure jabberwocky.

References

1. https://hmolpedia.com/page/Molecular_evolution_table
2. (a) Thims, Libb; Beg, Mirza. (2019). "Beg Interview, Day 2.2: Evolution, Origin of Life, Abioism, Panbioism, and Lotka Terminology" (YT), Human Chemistry 101, Nov 24.
(b) <https://youtu.be/4GqJBVnv8G8>

3. Note: Prior to the start of this booklet, the topic of 'Abioism' was simply listed as scheduled end chapter to Thims' drafting *Human Chemical Thermodynamics* (65AE).
4. https://hmolpedia.com/page/Chemical_perpetual_motion
5. <https://hmolpedia.com/page/Jabberwock>

Isopsephy

“Etymologically, the word *neter*, hieroglyph:  (axe or hatchet), may mean ‘power’, or, as some think, ‘nature’, but **etymology is an ever-shifting sand** on which to build.”

— Hunt Cooke (1905), ‘Review: *On the Gods of Egypt* by Wallis Budge’ (pg. 376)

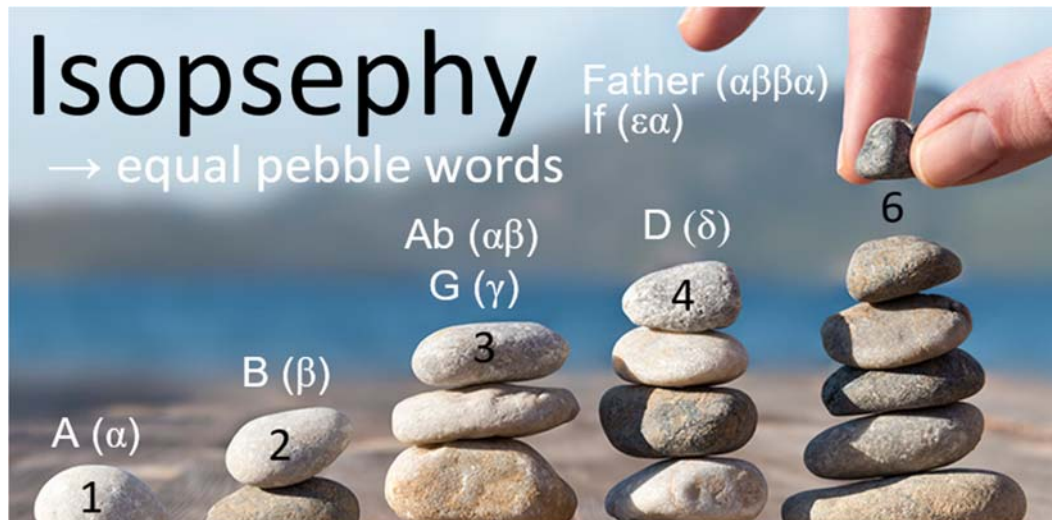
Section point: The term ‘bio’ is based on a Greek number-letter cypher technique called ‘isopsephy’ or equal pebble secret name word making. This section introduces isopsephy. [length: 6-pgs]

The number ‘282’, shown on the cover of this book, above the term ‘bio’, is what is called the *numerical equivalent* (NE), isopsephy, or alpha-numeric value of the word *bio*, or technically *bios* (βίος) in Greek, in its original form, derived as follows:

$$2 (\beta) + 10 (\iota) + 70 (\omicron) + 200 (\varsigma) = 282$$

The significance of the number 282, in respect to the term *bio*, and hence words such as *biology*, will be covered in detail in the ‘Bio = 282’ chapter. The number ‘282’, in short, derives from the solar magic square.

The premise of each word or term having a *numerical equivalent* (NE) value, derives from an ancient Greek word-making cipher technique called ‘isopsephy’, from *iso-*, meaning: ‘equal’, + *-psephos*, meaning: ‘pebbles’, pronounced: ‘I soap sefy’. In this grammar method, each letter has a certain pebble value, and words formed from such letters have an equal pebble value, as shown below:¹



Here, the letter A or alpha (α) equals 1 pebble, the letter B or beta (β) equals 2 pebbles, the letter Γ or gamma (γ) equals 3 pebbles, etc., and a word such as ‘Ab’ or αβ, formed by such letters, is a three-pebble value word, as shown above (middle stack), being the sum of the pebble value of each letter (1 + 2). The sum pebble count of a word is its isopsephy value, *numerical equivalent*, or NE value.²

Typically, but not always, the meaning of two words, e.g. *father* (αββα) and *if* (εα), are secretly united in coded meaning by their number value, the number ‘6’ in this case. In this example, i.e. the relation between *father* and *if*, does not seem to pan out? As isopsephy is a lost art, we only have, in modern terms, a partial understanding of the full listing of the original equivalences.¹¹ Two words to focus on are ‘bi’, or β (beta) [two pebbles] + ι (iota) [ten pebbles], which equals ‘12’, and ‘bia’, or β (beta) [two pebbles] + ι (iota) [ten pebbles] + α (alpha) [one pebble], which equals ‘13’. These two terms, which have solar-lunar etymological basis, as we will explain, are the base etymological roots of the words *alive* and *violence*.

Greek alphabet | 888-themed

The Greek alphabet, which is derived in order, letter structure, letter cypher meaning, and letter value, from Egyptian religio-mythology cosmology, formed in 1200 to 800BC in Miletus, Greece, the home of Thales. Isopsephy, historically, was the method by which Greek school children, in the period 1000BC to 300BC, learned the meaning of words. The Greeks learned this method of making words from stories and myths from the Egyptians. Each letter of the Greek alphabet, shown with its pebble value, is listed in Greek alphabet table below shown below, the frequently-updated version of which is available online and hyperlinked, for connectivity:¹²

Greek Alphabet

#	Letter	888	Value	Name	Vowel	NE	Greek God	Egyptian God	Sound	Roman
1	Α α	8	1	Alpha	"ah"	532	Atlas	Shu	a	A, a
2	Β β		2	Beta		311			b or v	B, b
3	Γ γ		3	Gamma					g	G, g
4	Δ δ		4	Delta		345			d	D, d
5	Ε ε		5	Epsilon	"eh"	865			e	E, e
6	(Ϝ ϝ / Ϟ ϟ)		6	Digamma (later Stigma)					w	
7	Ζ ζ		7	Zeta					z	Z, z
8	Η η		8	Eta	"h" / "i"	306		Ogdoad	ē	H, h
9	Θ θ	8	9	Theta		318	Helios	Ra Ennead	th	
10	Ι ι		10	Iota	"ih"				i	I, i
11	Κ κ		20	Kappa					k	K, k
12	Λ λ		30	Lambda					l	L, l
13	Μ μ		40	Mu					m	M, m
14	Ν ν		50	Nu				Nun	n	N, n
15	Ξ ξ		60	Xi					x	X, x
16	Ο ο		70	Omicron	"o"	360			o	O, o
17	Π π		80	Pi					p	P, p
18	(Ϟ ϟ)	8	90	Koppa					q	Q, q
19	Ρ ρ		100	Rho					r	R, r
20	Σ σ Ϻ		200	Sigma		254			s	S, s
21	Τ τ		300	Tau					t	T, t
22	Υ υ		400	Upsilon	"u"				y	U, u
23	Φ φ		500	Phi		510	Hephaestus	Ptah	ph	F, f
24	Χ χ		600	Chi					ch	C, c
25	Ψ ψ		700	Psi					ps	Y, y
26	Ω ω		800	Omega	"o"	849			ō	W, w
27	(Ϡ ϡ)		900	Sampi					ts	

The first thing to note, in this Greek alphabet table, is that in circa 350BC, plus or minus a century, what was formerly a 27-letter alphabet, had three of its letters, namely: digamma (Ϝ), value: 6, koppa (Ϟ), value: 90, and sampi (Ϡ), value: 900, removed, so to make a 24-letter alphabet, that uniquely had '8' single digit value letters, '8' double digit value letters, and '8' triple digit letters, so to make an '888' themed alphabet. While the history of this transition is a bit murky, we do know that it seems to have reached its apex in the time of Pythagoras (c.520BC), in Ionia, Greece, and his followers, the Pythagoreans, who looked for magic in numbers and symbology. The key point to note is that number 282 is the diameter of a circle of radius '888'.

Hence, there existed a move in this period to make everything, letters included, unformed to one cosmological view, thematic to the numbers '8' and '888'.

Examples | Nile = 365 (days), Omicron = 360°, Bible = 314 (π)

The name of the **Nile**, spelled Νεῖλος in Greek, to go through a basic isopsephy example, has a NE value of '365'. The mathematical summation of these six letter is shown below:

$$50 (N) + 5 (\epsilon) + 10 (\iota) + 30 (\lambda) + 70 (o) + 200 (\varsigma) = 365$$

The reason for Nile being based on or rather specifically derived from the number '365', is that the Nile river, the longest river in the world (Nile: 4,132 miles · Amazon: 4,000 miles · Yangtze: 3,915 miles), prior to it being damned, use to flood once per year, once ever '365 days'. This annual flooding was the basis of the Egyptian calendar system. The Greeks, subsequently, who all studied in Egypt, named the river Νεῖλος (NE:365) or year. Hence, the so-called *secret name* or meaning of the word Nile, based on its isopsephy value, is 'year'.

The Greek letter **omicron** (O, o), in Greek: Ομικρον, to go through a second example, is a word whose letter values sum to '360'. This is the number of degrees of a circle. This explains why the letter O, in the English alphabet, which is derived from the Greek letter omicron (O, o), is *circle*-shaped, namely because the symbol of the letter and numerical value of the word of the letter represent a 'circle'. The circle here derives from the shape of the moon and the sun, which the Egyptians believed were gods, as shown by the gods Ra (sun god), Khonsu (moon god), or Osiris (moon god), as shown adjacent. This explains, etymologically, the origin of words such as *Omnipotent*, meaning (of a deity) having unlimited power, able to do anything, or *Omnificent*, meaning creator of all things, etc.

Another example is the name **Bible**, spelled: βιβλος in Greek, which has an isopsephy value of '314', which is the first three digits of pi (π) or 3.1415 ..., the value of the ratio of a circumference of a circle (360°) to its diameter.

The reason for this is two-fold. Firstly, the sun god, be it in the form of Ra or Horus or Atum-Ra, is circular, hence a pi-themed (or omicron-themed). Secondly, and most importantly, the number pi itself, when written in fraction form, which is the math the Egyptians used, is defined follows, wherein the number '3' and '14' stand out as seemingly important cosmological numbers:

$$\pi = 3 + \frac{14}{100}$$



The Egyptians associated the number 3 with the three crop seasons (flood, planting, and harvest), the three points of the Nile Delta triangle shape, the 3 gods at the start of the world (Maat, Ra, and Thoth), among other associations. The Egyptians associated the number 14 with the fourteen days of the waxing or waning period of the moon, or half a lunar month (28 days).

We also note that ‘28’, the number of days of the lunar month, is the first two digits of the number: **282**, the isopsephy value of *bios* (βίος), aka ‘life’ in Greek. This connects things to the number ‘14’, the Osiris half-lunar month number, to ‘282’, as follows:

$$14 = \frac{28}{2}$$

We also note the number symbiology that ‘2’ people have to have sex once during a ‘28’ lunar month in order to make new ‘282’ (bio) or life. In other words, a 2-some once in 28-days makes a 28-2 (baby).

The crop season itself started on the last waning day of October, after the flood. The number 3 and 14 of π yield the sacred Egyptian number ‘42’ as follows:

$$3 \times 14 = 42$$

All three of these numbers were associated with the god Osiris, the crop god of Egypt, crops, e.g. barley for bread and grapes for wine, being the source of life for the Egyptians, and also the supreme dying and rising resurrection god of the afterlife. The crops grown in Egypt, in 3 seasons, were considered the body of Osiris. The body of Osiris was cut into 14 pieces by his brother Set. The number of nomes or countries of Egypt was set at 42 so to be Osiris themed.

Lastly, the body of Osiris, was put into a chest, then thrown into the Nile, and floated to a port city called Biblos, where it landed, and grew into a tamarisk evergreen tree. Biblos was where the paper for the *Egyptian Book of the Dead* and the *Bible* was said to be made. The Jews rescripted Osiris into the character of Moses. Hence, the Bible, or Five books of Moses, aka 314-book, derive from four numbers all sacred to Osiris (3, 14, 42) and Ra (3.14).

The basic function of isopsephy, to summarize, is that if two words have the same numerical value, then they have an interrelated meaning. A famous example is the name ‘Helios’, the Greek sun god, and the Greek word ‘theta’, the 9th letter of the Greek alphabet, which both have the same numerical value of ‘318’. This means that *theta*, symbol θ , sound: ‘th’, has ‘heat’ or ‘sun god’ as its secret meaning. This is the etymological root of words such as thermal and theology. Beyond these simple examples, the determination of the secret etymological meaning of words, based on their isopsephy value, can become quite intricate, involving geometry, mathematics, and complex mythologies, and many remain unsolved, as ciphers lost in history.



Numerical equivalences [NE] table

There are about a hundred numerical equivalence (NE) value based names and or secret names, of interest, in respect to human chemical thermodynamics, which have been decoded, available online, in various Hmolpedia articles.⁷ Some of these are also listed in the Hmolpedia ‘number’ article, which tabulates important numbers, zero to infinity, listing NE value based names, if available.⁸

The following table, which should be used as a quick-reference guide, while reading this book, lists the isopsephy or NE value based terms, names, and secret names of interest, as discussed herein, in respect to abioism:

NE value	Letter/Word	Meaning / Secret Name
1	A (α)	• Monad (or nous) • Shu (air), the 1st thing created by Atum-Ra
8	H (η)	Ogdoad (eight god family of Hermopolis)
9	Θ (sound: th-)	Ennead (nine god family of Heliopolis)
111	Nine (εννεα)	• Sum of one row of solar magic square • Paideia (παιδεια) = knowledge (e.g. encyclo-pedia)
210	Is (ίς)	• Force , strength (compare: <i>vis</i> [Latin])

		• Fertile (πιον)
220	Messiah	• Kar (כר) = Lamb, Christ [Hebrew] • Bechir (בְּחִיר) = chosen one [Hebrew] • Lower value of lowest amicable pair (284, 220)
282	Bio (βίος)	• Diameter of circle with circumference of '888' units • A property given to people by the 'ίς' (NE:210) of Aphrodite
284	Theos (Θεος)	• God (sun god or gods) • Dios (or deity) • Higher value of lowest amicable pair (284, 220)
314	Bible (βιβλος)	• The first three digits of pi (π) or 3.1415 ... • Root of name padre (father)
318	Theta (Θ)	Helios (Ηλιος)
365	Nile (Νειλος)	Days in a year
360	O	• Degrees in a circle • Omicron (Ομικρον), 16th Greek letter
510	Phi (Φ)	• Isopsephy value of word: Phi (23 Greek letter) • Isopsephy value of word: Ptah (fire drill sun god)
551		• <i>Philia</i> (φιλία) = force of attraction (Empedocles, 445BC) • Will (βουλημα) = secret name of <i>philia</i>
666	Sol	• Roman sun god • Sum of six rows (or six columns) of solar magic square
888	Jesus (Ιησους)	• Sum of number values of six rows (or six columns) and two diagonals of the solar magic square • Number of divisions of Greek alphabet (8 single digit letter, 8 double digit letters, 8 triple digit letters)

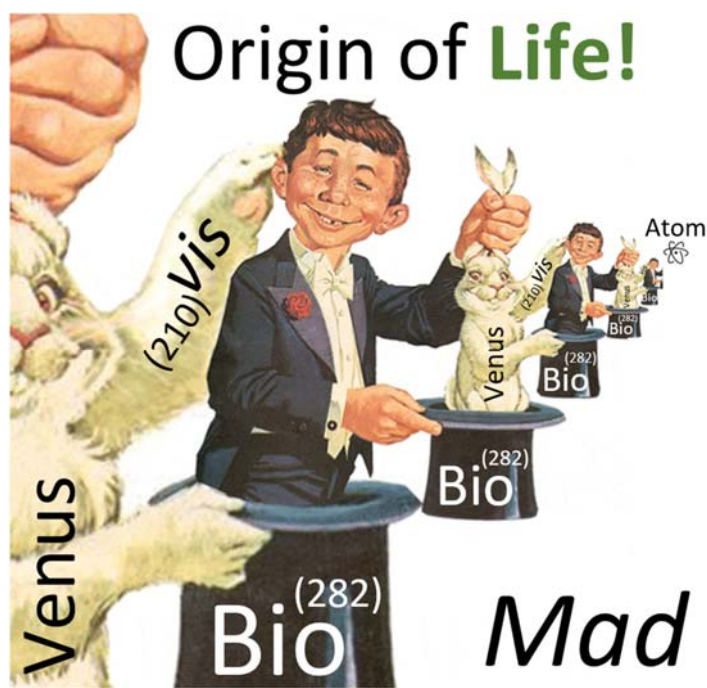
The Hebrew version of isopsephy, to note, is called *gematria*, from Egyptian *Geb-*, meaning: 'earth god' + *-meter*, meaning: 'measure', aka 'letter geometry'.⁴ The method is the same, only the Hebrew alphabet, which has different number values for each letter, has to be used.⁵

Lastly, the origin of the isopsephy or gematria word forming technique, derives from the Egyptian 'secret name' model. Little is known about this method, other than that each person or god, when born, was given or had a secret name, which only they knew. If anyone found out your secret name, then they would have power over you. If one god found out the secret name of another god, then they would be able to use the powers of that god. This comes from the myth of 'Isis and Ra's Secret Name'. In this story, the god Horus, the son of Isis, gets stung by a scorpion and dies or is about to die. Isis ends up tricking Ra into telling her his secret name. Isis then uses his powers to restore her son Horus back to life.⁶

Those numbers shown bolded, namely: 111, **282**, 666, and 888 all derive from the solar magic square, as will be discussed fully in the 'Bio = 282' chapter. The key point to remember, at this point, is that '282' is a magic number. It derives from the numbers 111 and 888 of the magic square of the sun. Hence, if you are enrolled in a *biology* class, or related, e.g.

biochemistry, *bioengineering*, *biothermodynamics*, or worst yet *biochemical thermodynamics*, which are all 282-based subjects, you are enrolled in a magician's class.

To prove this point to yourself, simply raise your hand in class, and ask your teacher to define the term 'bio'. You will get a magical answer.⁹ Moreover, the more you ask your teacher to explain 'bio' at its origins, down to and past the hydrogen atom level, the more *magical* the answer will become. This is illustrated adjacent.



The aim, herein, will be to take the ‘magic’ out of the definition of our existence, as concerns fundamental, basic, or so-called *first principles*.¹²

Noting, also, that the magic rabbit image, shown here, comes from the 1976 cover of *Mad* magazine, we do not, as intellectuals, want to be called ‘mad’, in our ideas! The person who argues, e.g., that they are ‘alive’, or have bio (life), amounts to arguing, etymologically, speaking directly, that they have or are in possession of what is called the (Varro, 50BC), in Roman mythology, which is a rescript of the *Is of Aphrodite*, in Greek mythology, which is a rescript of the *Ankh force of Hathor*, in Egyptian mythology, which is known to us in the Western world as the *Breath of life of Eve*, in Biblical terms. This very same ‘sane’ person, then, accordingly, has to also argue that the atom has the vis of Venus, or Is of Aphrodite, or Ankh force of Hathor, which makes atomic clay humans animate! The person who does indeed preach this view on the street corner, we would call ‘mad’.

While most people do indeed believe this ‘mad view’, we do not however, see them preaching this view on the street corner, street ‘Jesus preachers’ aside, per reason that the understanding of the original meaning of the words, we use presently in modern language, and take for granted, as established fact-based words, has completely been lost and atrophied, in regards to their original Egyptian, Greek, and Roman meaning.

Certainly, to clarify, there will always be a certain amount of mystery and wonder to what we do not yet fully understand, but to continue to define our existence, in concept and language, by *magic*, when we plainly know it to be magic, is best defined as inanity, turned upside down.

Synopsis: Remember ‘bio’ or anything one calls ‘alive’ is based on the number 282, which derives from the solar magic square. Bio is a solar-based mythical-magic word that when carried down to the atomic and molecular reaction level, reduces into mad nonsense, which falls into a rabbit hole of silliness.

References

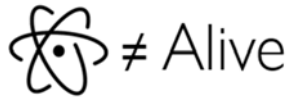
1. <https://hmolpedia.com/page/Isopsephy>
2. <https://hmolpedia.com/page/NE>
3. https://hmolpedia.com/page/Epagomenal_days
4. <https://hmolpedia.com/page/Gematria>
5. https://hmolpedia.com/page/Hebrew_alphabet
6. https://hmolpedia.com/page/Secret_name
7. <https://hmolpedia.com/page/Special:WhatLinksHere/NE>
8. <https://hmolpedia.com/page/Number>
9. That is, unless of course, the teacher or professor has read Thims’ Abioism.
10. (a) Kieren Barry’s 1999 appendix section ‘Dictionary of Isopsephy’, which tabulates numerically equivalent words, valued: 0 to 4000, is the best introduction to this subject.
- (b) https://hmolpedia.com/page/Kieren_Barry
11. https://hmolpedia.com/page/First_principle
12. https://hmolpedia.com/page/Greek_alphabet

Abstract

“Everything is made of atoms. That is the key hypothesis. Everything that animals do, atoms do.”
— Richard Feynman (1961), ‘Atoms in Motion’, Caltech Lectures on Physics

Chapter point: Attempted short summary of this book. [length: 2-pgs]

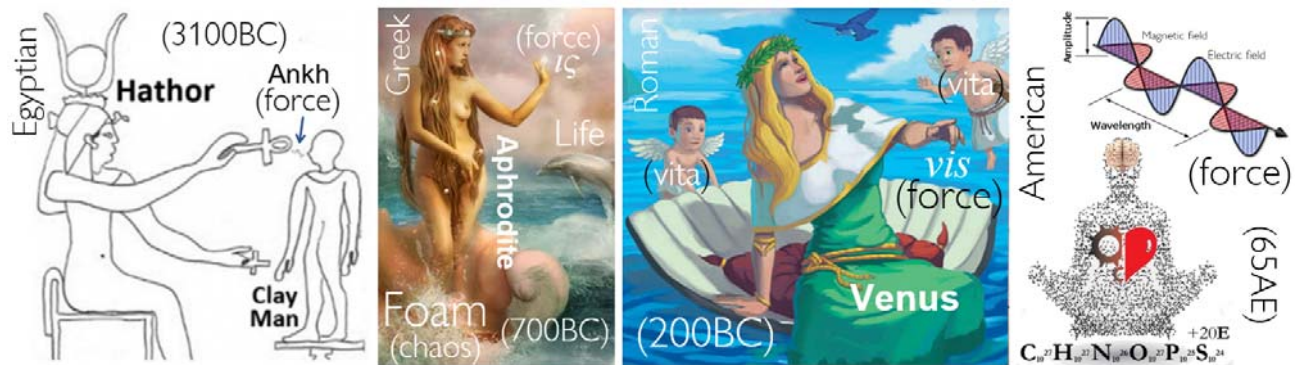
The essential abstract of this book is embedded in the following symbol, mathematical operator, and word, which states that atoms are not alive:



One person is made of 10^{27} of these non-*alive* atoms. If you believe this statement, then you will believe some or all of the views presented herein. A fuller abstract is shown by the following table, row two:

	Defunct Term	Theorist		New term	Theorist
1.	Ether	Anaxagoras (460BC)	→	Spacetime	Minkowski (1908)
2.	Vis (force)	<i>Venus</i> (c.400BC)	→	Electromagnetic (force)	Maxwell (1861)
3.	Caloric	Lavoisier (1783)	→	Entropy	Clausius (1865)

Namely, that what we previous thought of as *life*, defined as the ‘vis of Venus’, or the *magic force* of a goddess, is now defined as a new principle based on a measurable force that goes by the name *electromagnetic*:¹ The following is the *visual* abstract of this book:



In sum, five-thousand years ago it was believed that people were clay figurines that were brought to ‘life’, i.e. given *vita*, or made ‘alive’, by a *magic force*, force name: ankh (Egyptian), *Ις* (Greek), *vis* (Roman), or breath of life (Hebrew), of a goddess named: Hathor (Egyptian), Aphrodite (Greek), Venus (Roman), or woman Eve (Hebrew):²

	Egyptian (3100BC)	Greek (850BC)	Roman (400BC)	Hebrew (200BC)	Leibniz (1686)	Medicus (1774)	19 th -20 th century
Goddess	Hathor	Aphrodite	Venus	Eve			
Force	Ankh (♀)	<i>Ις</i> (NE:210)	Vis (force)	Breath of life	Vis viva (living force)	Lebens kraft (life force)	Electromagnetic force
Principle		Bios	Vita	Life			Vitalism/Neovitalism

Presently, this magic force is known to us in the form of the number-coded Greek word *bios* (NE:282), from the ‘*Ις*’ (NE:210), meaning magic ‘force of Aphrodite’, each word shown with its *numerical equivalent* (NE), a number which cyphers out a secret name or double meaning. This ‘*Is*’ (*Ις*) of Aphrodite, in the Roman period, became the *vis* of Venus. This ‘*Vis*’, or goddess magic life force, became, etymologically, in modern times, coded into the letter V (or ‘f’ phonetically), as follows:

Is (*ίς*) of Bios (*βίος*) → *Vis* (magic force) of Vita → LiVe → **Life**

This *Is* (Greek) or *Vis* (Latin) mythical force, is found in modern words such as: ali**Ve**, li**Fe**, li**Ve**, sur**Vive**, belie**Ve**, afterli**Fe**, among dozens of others, e.g. bioethics or biology. Hence, when we ask intelligent

questions such how ‘non-aliVe atoms’ can form a *bio*-logical thing or a presumed to be ‘liVing humans’, the mind becomes confused?

This *magic force*, however, was replaced by James Maxwell in 1862 with what is now called the ‘electromagnetic force’.

Concordantly, while the goddess part of this force, over time, as shown above, has atrophied away, e.g. we no longer speak of Aphrodite or Venus as being responsible for the force inside of cells in our cell biology classes, we still retain not only the myth-based language, e.g. ‘cell Venus-ology’ (cell biology) class, as found in the words: bio, life, alive, or survival, etc., but more importantly remain abysmally-uneducated in respect to the conceptual repercussions of what this new *non-magic force* means, in respect to human movement.

Herein, *life terminology reform*, in respect to the defunct terminology, and re-education, regarding plant, animal, and human ‘movement’, based on the electromagnetic force, will be the gist of our discourse, with focus on the unlearning process involved with regard to culturally ingrained models, taught to us as children, based on the ancient magic forces, which unnaturally, more often than not, tend to bias our current views of our place in the universe.

Synopsis: Abioism means humans are NOT moved by the force of Venus, but by the force of Maxwell.

References

1. https://hmolpedia.com/page/Vis_of_Venus
2. <https://hmolpedia.com/page/Life>

Preliminary

“Schopenhauer is the person who, coming upon Kant’s philosophy, noticing that ‘god’ therein was not attached to anything, **shook the text until ‘god’ fell out.**”

— Jennifer Hecht (2003), *Doubt* (pg. 393)

Section point: To cover the preliminary back ground material, prior to reading further. Firstly, we are going to be shaking ‘life’ out of science, they way Schopenhauer shook god out of philosophy. Second, the words thermodynamics and theology are both rooted in the Greek letter theta, which means sun or sun god; hence, we will be confronting ingrained belief conflicts. Third, we will be using the Anno Elementum dating system. Fourth, we will be employing explicit atheist chemical thermodynamics, herein. [length: 9-pgs]

The subject of the four letter word: L I F E, the topic of this book, which has confused the majority of the greatest thinkers of all time, dating back to the Greeks, e.g. Thales (570BC), Empedocles (445BC), and Aristotle (350BC), who first began to tackle the problem, can be classified into six domains of belief system logic or ideology, as shown below:

1. **Creationism** (god created life on day three)
2. **Bioism** (certain things are alive; origin not discussed)
3. **Emergent bioism** (life emerged at a certain point)
4. **Gradual bioism** (life *gradually* arose)
5. **Panbioism** (all things are alive)
6. **Abioism** (no things are alive)

Herein, we will be outlining the basics of viewpoint number six, named *abioism*, from *a-*, meaning: ‘without’, + *bio-*, meaning: ‘282’, a Greek-Egyptian number-word cypher derived from the ‘solar magic square’, + *-ism*, meaning: ‘doctrine or view’.¹ The word ‘bio’, in short, is a three-letter magical word, once believed to be a property of a sun god.

The term *abioism*, meaning disbelief in the existence of *life*, or disbelief that humans move about the surface of the earth by magic, or by the force of a god or sungod-based heat property, formerly thought to ‘animate’ people, was coined by Thims on 4 Jul 2015 (60AE). In the simplest language possible:

Abioism = Disbelief in 282 (Bio)

Thims, to paraphrase Jennifer Hecht’s Schopenhauer quote, shown above, was the person who, coming upon Goethe’s philosophy, in 2006, and noticing that ‘life’ therein was not attached to anything, shook the text until *life* fell out. This is illustrated adjacent.

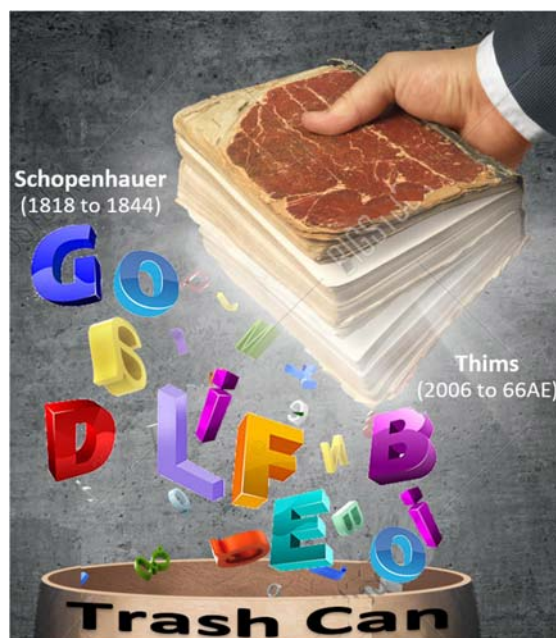
The text in question is Goethe’s *Elective Affinities: On the Nature of the Choice of Our Elective Attractions*, which explains how humans *evolved*, or affinity-morphed, as Goethe terms it, over time, from chemicals via the powering action of the heat of the sun, and the forces of chemical reaction. If you shake that philosophical logic out long enough, the premise of ‘life’, existing somewhere in the picture, or mechanism of form change, hydrogen to human, falls out, but ‘force’ is kept.

Schopenhauer, like Thims, both studied under Goethe, and like Schopenhauer absorbed his physico-chemical form change logic, atoms to society. Schopenhauer went on to become Germany’s first avowed atheist, so Nietzsche tells us:

“Schopenhauer was the first admitted and inexorable ‘atheist’ among us Germans.”

— Friedrich Nietzsche (1882), *The Gay Science* (pg. #)

Thims, like Schopenhauer, went on to become the world’s first avowed ‘abioist’ or technically an *abioist atheist*, namely one who avows disbelief in the existence of god and avows disbelief in the existence of life.¹⁵



To clarify, in respect to this statement, there are six known publicly avowed abioists: Jonathan Dowling (1998/2013), Alfred Rogers (1990s/2013), Libb Thims (2007/2009), Ferris Jabr (2013), Jiri (2017), and Freaky Bit (2020), dates shown being when each arrived at the abioism view and when they formerly stated their views in publication. Hence, technically, Jonathan Dowling, who argued in favor of abioism, while working at NASA in 1998, during their group discussions about the possibility of life on Mars, might well be classified as the first publicly avowed abioist. Verbal statements made in argument, however, is a far different thing than stating the same thing in print and distributed for public consumption. There are, no doubt, if there are six published abioists, many anonymous unpublished abioists in the world, at least one or two of whom having contacted Thims anonymously via Reddit messaging.

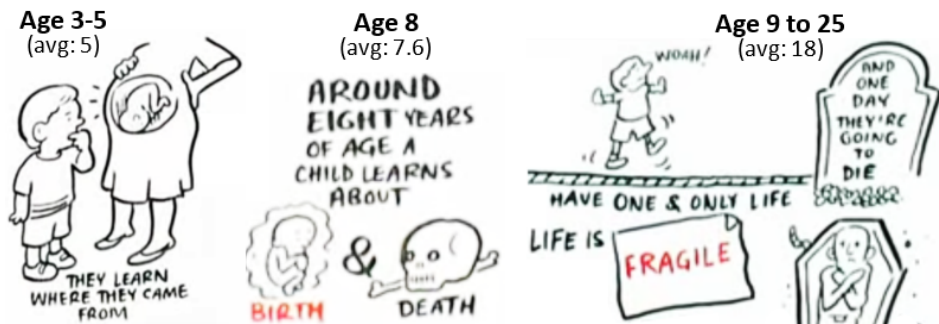
Likewise, Alfred Rogers says he first collected his abioism views as scratch philosophical notes in a shoebox in the 1990s, and likely have discussed these ideas in his circles, but did not formerly purchase his LifeDoesNotExist.com site until 2010 and was not active until 2013.

On first pass, the idea that ‘life does not exist’ might seem more than a little confusing to most? To put this into perspective, as the following sketch, made by the Royal Society for Arts, illustrates, as we come into the world, we are given various assumptions, most of which being absorbed by the mind without question, e.g. that we evolved over time, from amoeba to fish to lizards to apes, that the transfer of DNA is involved in this mechanism, among many other embedded assumptions.¹⁶



Between the ages of three to five, or age five on average, a person learns where they came from, namely out of their mother’s womb, shown below left. By age 7.6, the typical person learns about ‘birth’ and ‘death’. By age 9 to early adulthood, or age 18 on average, according to polled opinion, a person comes to believe that one day they are going to ‘die’ and thereafter, for some, begin to ruminate on the meaning of existence.

The variations of what each particular person is told or learns in each of the above three scenarios, in respect to the term: origin, birth, life, death, die, and existence, covers a broad spectrum, from: ‘you will become worm food’, the ‘lion will eat you’, ‘you will go to



live with god in the afterlife, where you will reunite with your deceased friends, lovers, and relatives’, or you will ‘return to the vacuum’ as Foe Kiao (65BC) used to tell people .

Herein, our concern will not be with these larger grand questions, surrounding so called existence continuity, but rather our focus will be on the simpler issue of the use of correct scientific logic, grammar, argument, and terminology when speaking about whatever grand question one discusses, either in daily *small talk* personal conversation or in exacting language specific scientific journal publications. This can be as simple, as the author as switching one’s day-to-day language from ‘I feel so alive’ today to ‘I feel so full of force’ today, when talking to people on a street corner. This helps to get the ‘myth’ out of the brain.

Specifically, it has become the standing bedrock fact of science, since Jean Perrin won the 1926 Nobel Prize for ‘proving’ the existence of atoms, via three different methods, and since Erwin Muller in 1955 ‘saw’ atoms for the first time, via his field ion microscope, that atoms exist and that humans are made of atoms. Nobody, no longer, questions this fact.

	S-terms	H-terms	R-terms	Links
1.	Thermodynamics			2608
2.			Life	2359
3.	Entropy			2152
4.	Energy			2043
5.	Science			2006
6.	Physics			1798
7.	Chemistry			1786
8.			God	1760
9.		Existographies		1646
10.	Force			1499

What people do question, however, is how did so-called ‘non-living atoms’ evolve or morph over time to form ‘living humans’? Atoms are not born. Atoms do not die. Atoms do not have life. Atoms do not have a state of death. There exists a conceptual discord in continuity between these two views.

Subsequently, what we learn or are taught before age eight, e.g. that we, presumably, are ‘alive’, conflicts with what we learn, in later years, about our atomic origins, namely that atoms are ‘not alive’. Most of this book will be concerned with conceptual reconciliation of this inherent problem. The bulk of the problem is solved with terminology reform.

A number of people, independently, in the last decade or so, as we will be discussed, have published abioism themed views, in blog, article, website, book, video, and conference lecture format. Simple statements of disbelief in the existence of ‘life’, however, is far cry from *disabusing* life. The following table, to exemplify the difficulty associated with the work involved in disabusing life, lists the top ten most-cited terms of *Hmolpedia*, a 5,700+ article, 5M+ word encyclopedia, penned over 15+ years. The notation: S, H, and R, stand for science, humanities, and religious terms, respectively.

In this table, we see the term ‘life’, a religious term, cited 2,300+ times, second only to the term ‘thermodynamics’, a science term, in a *chemical* thermodynamics encyclopedia? We also see the term ‘god’ ranking in as 8th most hyperlinked term in *Hmolpedia*?

The reason that god, aka ‘theo’ (sun god), and life, aka ‘bios’ (diameter of an 888 unit circumference magic solar circle), are hyperlinked so much in a thermodynamics encyclopedia, is that both *theology*, the study of gods (*theos*), and *thermodynamics*, the study of heat, work, and energy, have the same root etymology, namely in the cypher-based Greek letter Theta, symbol: ‘Θ’, which derives from the hieroglyph symbol of the sun or sun god, depending on one’s point of view:

 → Θ → Th- → Th-ermodynamics
 → Θ → Th- → Th-eology

Hence, the reason for this over-employment of the terms: *god* and *life*, is that these two terms are theologian’s codenames for *power* and *force*, respectively, or technically ‘divine power’ and ‘divine force’, or new varieties such as higher power, creative work, or life force, etc.

“He was a practical electrician fond of whiskey, a heavy, red-haired brute with irregular teeth. He doubted the existence of a deity but accepted Carnot’s cycle, and he had read Shakespeare and found him weak in chemistry.”

— Herbert Wells (1906), "Lord of the Dynamos"

The chemical thermodynamicist, however, now employs the symbol δQ instead of god. Thus, in the ongoing process of the usurpation of belief in god for belief in δQ there remains a grand amount of etymological and conceptual mental cleaning to be done. The dustiest area, presently, is that which covers the term ‘life’ and is greatly in need of cleaning.

P.1. | Anno Elementum (BE/AE) dating system

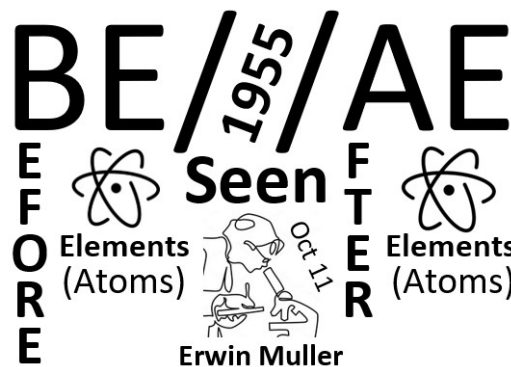
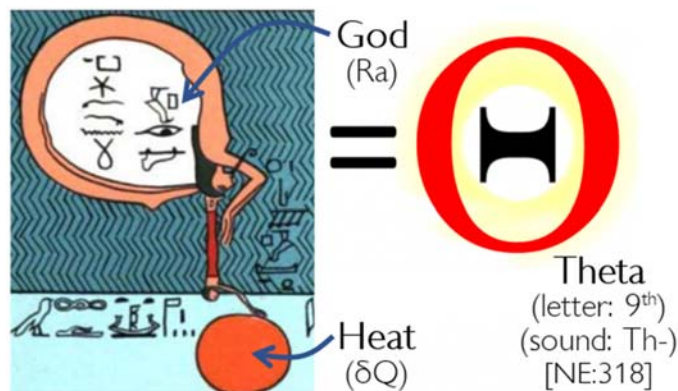
The dating system employed to date the title page of the year of the publication of this book, uses the *Anno Elementum* (AE) dating system. In this new dating system, invented by Thims in 2020, the ‘zero year’ (0 AE), is defined as the year humans first saw atoms. This occurred on 11 Oct 1955, wherein Erwin Muller saw tungsten atoms, with his newly-invented field ion microscope.¹⁸ The following is what he said upon rising from the microscope:

“This is it! **Atoms, yes, atoms!**” [English]

“Das ist es! Atome, ja, Atome!” [German]

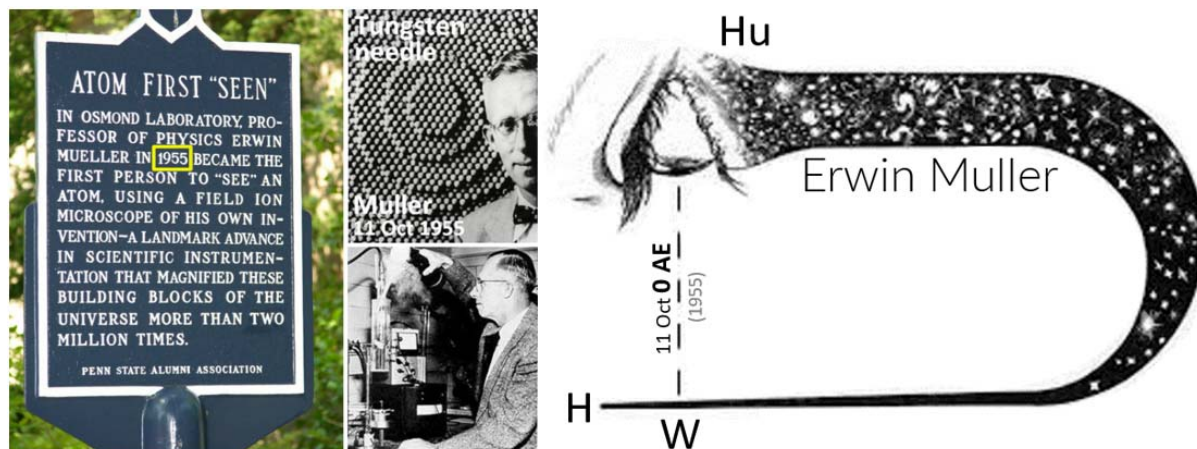
— Erwin Muller (1955 AD) (0 AE), verbal comment, Oct 11

This book is dated in the 66th year since humans saw atoms with their own eyes. Said another way, the title page of this book is dated during year of the 66th revolution of the earth about the sun since Muller yelled out ‘atoms, yes atoms!’ This is a new universal calendar system. We should suspect this type of calendar



system to have been developed on other hospitable zone planets throughout the universe. This new era can be defined as the start of so-called ‘molecular enlightenment’, namely the period of the history of a species after its sees its own atomic composition, at the single atom level.

The following is a retrospect visual overview of this grand event, about an infamous particle, predicted to exist 2,405-years prior by Leucippus, which caused countless numbers of people, Giordano Bruno (1600) most-famously, to be burned at the stake:



This new before elements (BE) and after elements (AE) dating system, is compared to the six main historical precursor calendar systems below:

	Dating system	Zero year	Year	Inventor
1.	BUC/AUC dating system	Rome's founding	50BC	Marcus Varro
2.	BA/AA dating system	Abraham's birth	310AD	Eusebius
3.	BC/AD dating system	Christ's birth	525AD	Dionysius Exiguus
4.	BCE/CE dating system	Common era	1615	Johannes Kepler
5.	BCM/ACM dating system	Christ myth start	1802	Thomas Paine
6.	BC/AC dating system	Cybernetics start	1953	Herbert Simon
7.	BE/AE dating system	Atoms first seen	2020	Libb Thims

The Thimsian calendar (BE/AE) is replacing the Dionysian calendar (BC/AD) dating system, in short. Here, to clarify, Erwin Muller was a real person. Atoms are real things. The character Abraham, of the Eusebius calendar, and Jesus Christ, of Dionysius' calendar, are not real, but mythical figures. The zero year of 'atoms first seen' calendar is dated to a real event. The following table gives a basic summary of how to convert BC/AD dated years into BE/AE dated years:

	BE	Zero Year	AE		
200BC	1954	← 1955 →	1956	2020	2021
2155BE	1BE	0AE	1AE	65AE	66AE
	1 Before Elements		1 After Elements		
			1 Anno Elementum		
			1 Atomic Era		
			1 Atomic Enlightenment		

In short, the year Muller saw tungsten atoms, is defined as the 'zero year'. Years before this *atoms-seen-year* are defined as 'before element' (BE) years. Years after the *atoms-seen-year* are defined as 'after element'

(AE) years. This *Anno Elementum* dating system was devised by Thims in the years 65AE or 2020 AD. The year 2055AD will be 100AE. The following is the new basic definition of time in seconds, based on the cesium atom, and years, based on the tungsten atom:

Cesium (Cs) defines time in seconds:

Definition: the second (s) is the duration of 9,192,631,770 periods of radiation corresponding to the transition between the two hyperfine levels of the ground state of the cesium (Cs) 133 atom.



Tungsten (W) defines time in years:

Definition: the year (BE/AE) is the number of revolutions of the earth around the sun, since atoms of the element (E) tungsten (W) were first seen; the 'atoms seen first' year is defined as the zero year.



This new secular-scientific dating system, which replaces the *Anno Domini* (AD) dating system, has been employed, over the last year, to re-date all 1,000+ existographies in Hmolpedia, and also to date new years, 66AE and later, with concordant AD dates shown adjacent, as the learning process actualates.

P.2 | Scientific god synonyms

Categorically, terms such as vitality, life force, or bioenergy, etc., are Roman, German, and Greek, respectively, language-camouflaged god-based life-isms, classified herein as 'scientific god synonyms', as the following table shows, grouped by category:⁸

	1.	2.	3.	4.	5.	6.
Science	God's Magic				God	
	Vita (Roman)	Life (German)	Bio (Greek)	Create (KJV)	Neter (Egyptian)	Theos (Greek)
1. Fire	Vital fire	Living fire Living flame	Divine fire			
2. Heat	Vital heat	Living heat		Creative heat		
3. Affinity	Vital affinity					
4. Force	Vital force Animate force	Life force Living force	Bioforce		Higher force	
5. Impulse	Elan vital					
6. Work	Curriculum vitae (CV)			Creative work		
7. Energy	Vital energy	Life energy Living energy	Bioenergy	Creative energy		
8. Power	Vital power	Living power Dead power	Biopower	Created power	Higher power	
9. Kinetic energy	Vis viva					
10. Potential energy	Vis mortua					
Reaction:	Abioism			Synthesis	Atheism	

Terms one to eight (column one), namely: fire, heat, affinity, force, impulse, work, energy, and power, are what are called *real* terms. By ‘real’ we mean they have all been measured, quantified, put into formulation, and therein evidenced to the senses via experiment and demonstration. These eight terms will be employed herein to replace what formerly was called ‘life’.

“**Force is no impelling god**, no entity separate from the material substratum; it is inseparable from matter, is one of its eternal indwelling properties. A force unconnected with matter, hovering loose over matter, is an utterly empty conception. In nitrogen, carbon, hydrogen, oxygen, in sulphur and phosphorus, their several properties have dwelt from all eternity.”

— Jacob Moleschott (c.1850), Source; cited by Ludwig Buchner (1855) in *Force and Matter* (pg. 1)

Historically, to clarify, there have been those have believed that the term ‘life’ can be mixed with these eight real terms. These mixing attempts are what can be referred to as ‘god’s magic’. Volumes of books have been written on each of these various god’s magic terms, and they all have been uniformly dismissed as historical artifacts or skeletons of science. The 1917 book *The History of Vitalism*, by vitalism defender Hans Driesch, gives a good summary of things.

The third class of terms or rather arguments, connected to the eight column one core science terms, derive from the belief that the term ‘life’ can be explained by the eight real terms, e.g. the belief that life can be explained by energy or by force, but without actually using the derived term ‘life energy’ or ‘life force’. These can range from simple statements such as that the heat of the sun grows plants, which is transformed through the food chain, to make fuel for humans, which keeps people alive, to complex arguments, involving perpetual motion schemes at the chemical level.

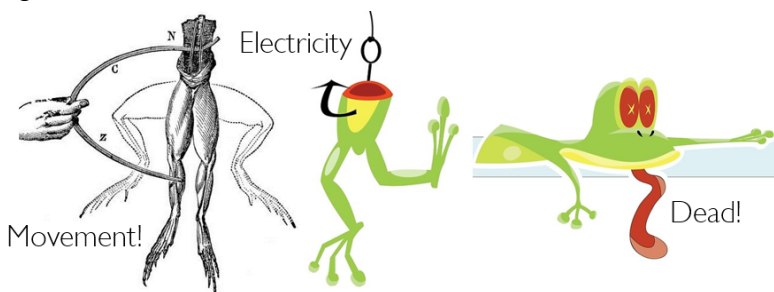
Some of the more complex *life-explained-by-science* arguments, use advanced terms such as: auto-catalysis, clay substrates, chirality, hydrothermal vents, thermodynamic gradients, among dozens of other convoluted arguments, which we will not cover herein. Moreover, some of these arguments are backed by experiments, such as Luigi Galvani’s 1771 animal reanimation experiments with severed frog legs, wherein he made ‘dead’ frog legs twitch via making an electric circuit.

These experiments would famously go onto inspire the character Dr. Frankenstein, who is based on Percy Shelley, who in 1810s grappled, philosophically, with the ramifications of these movement from dead animals via electricity findings.

The famous 1952 Miller-Urey experiment, wherein amino acids were synthesized from chemicals, water, and sparks, is another example. These are classified as ‘laboratory produced life’ experiments.¹⁷ The majority of people, scientists included, adhere to this latter so-called ‘life can be explained by science’ belief system. The author also once believed in this logic. This, however, unbeknownst to most, is a bankrupt belief system. It is empty and baseless in foundational logic. It is, however, difficult to see or discern why this is so, without prolonged reflection.

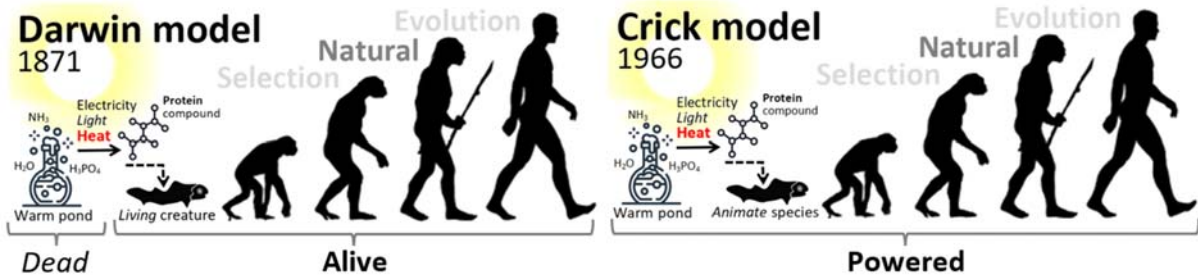
Life, in short, cannot be explained by chemical thermodynamics. This is the core takeaway anchor point of this entire book. The modern intellectually honed mind can no longer simultaneously believe in life (or bio) AND believe in the eight real terms in column one. It is, however, rather slippery, and intellectually-involved, to explain why this is so, as we will see.

Historically, the roots of the life-explained-by-science, were planted in 1797, when Theodore Roose, a German anatomist and physiologist, in his *Outlines of the Theory of Life Force*, introduced the new science he called ‘biology’, a term he coined, which he defined as the doctrine of study of the ‘life force’. A few others, in this period also began employ the term biology, using similar types of definitions.⁹ In the decades to following, the science of biology became a semi-respectable science, albeit without a functional definition of what the term *biology* actually meant?



P.3 | Darwin model (1871) vs Crick model (1966)

In 1871, Charles Darwin, in his famous ‘warm pond’ letter to Joseph Hooker, conjectured that long long ago, there was a hypothetical warm pond, filled with ammonia NH_3 and phosphoric salts H_3PO_4 , that was electrified, lighted, and heated, which then formed a protein compound, which, given time, formed a ‘living creature’, as shown below left. The gist of Darwin’s model, is basically correct, barring, firstly, the word ‘living’, and secondly, the method by which nature ‘selects’:



In 1966, Francis Crick, in his *Of Molecules and Men*, having already elucidated the molecular structure of nucleic acids (1953) or DNA, argued that to make further intellectual progress, in respect to men having evolved from molecules, that we must abandon the word 'alive'. This is called the 'Crick model', as shown above right.

Here, the term 'living creature', Darwin's term, is replaced by *animate species*, Daniel Dennett's term (2006), and 'alive' is replaced by *powered*, Henry Swan's term (1974). This is called terminology reform. The entire problem, in short, has been solved by a few terminology upgrades. Belief reformations and mind regrowth changes, associated with the ramifications of this solution, however, is an entirely different matter.

P.4 | Neo-vitalism

The subject of neo-vitalism or modern forms of vitalism is an ongoing problem. The poster shown adjacent, e.g. from a 2011 vitalism and anti-vitalism conference at the Multi-Media Institute (MaMa) at Zagreb, Croatia, hosted by Nathan Brown, of UC Davis, and Petar Milat, with MaMa, focused on vitalism confusions in philosophy, highlights this. The following was the conference abstract:

"Life is the site of a formidable lacuna. There is no firmly established scientific account of its constitutive properties or the process of its genesis. Varieties of *vital materialism* prone to describing physical forces in terms of an inherent 'life of things' have done little to clarify the problematic nature of the concept, and insofar as 'life' functions as an **empty signifier** concealing an absence of theoretical coherence we might be **better to have done with it.**"



While it may seem simple to simply replace 'alive' with the word 'powered', or something similar, and be done with the problem (~~LIFE~~), as Brown and Milat advise, the issue is more complex than this. There are associated theological ramifications when this is done. Accordingly, every decade, a new brand of neo-vitalism arises, each version becoming more complex in their theologically coded scientific language than the former. Many of these are very hard to detect. These include Henri Bergson and his 1907 *élan vital*, Hans Driesch and his 1917 *entelechy* dynamics theory of biology, and Walter Elsasser and his 1958 'biotonic' phenomena ideology, to name a few.

The latest cycle is being seen with the growing number of thermodynamics textbook authors, e.g. Donald Hayne (*Biological Thermodynamics*, 2001), Mustafa Ozilgen (*Biothermodynamics: Principles and Applications*, 2016), or Robert Hanlon (*The Historical and Theoretical Foundations of Thermodynamics*, 2020), who attempt to define 'life' using information theory.

The premise of equating 'information', bits, or digital ones and zeros, to physical 'heat', aka entropy, to clarify, is based entirely on a 1940 inside joke by chemical engineer John Neumann, which was told to electrical engineer Claude Shannon. To see through this joke, one has to have education in both chemical engineering and electrical engineering. Since not many are in this intellectual position, the joke continues to be sold as truth.

Throughout all of these repeated attempts to redress 'life' in scientific terminology, term 'bio' (or alive) has remained, unquestioned, to this day? In other words, every day young people, in high school and college willing sign up for 'biology' classes; yet, are never taught that the term bio has no basis in reality. The aim herein, accordingly, will be to snuff out the flame of these ongoing neo-vitalism rekindlings, once and for all. We certainly can talk about the various movements and behaviors of classes of species, but we can no longer, intellectually, continue to do so mythologically or religiously.

P.5 | Atheistic chemical thermodynamics

In respect to abioism, we point out that the core basis of this book is what is called *atheistic chemical thermodynamics*, which means chemical thermodynamics defined and explained with the *explicit* assumption that there is no god or god theory involved, whatsoever.¹⁰ This declaration is very important to state openly.

The reason for this is that theta Θ , the 9th letter of the Greek alphabet, is the root letter of both *thermo*- (meaning: heat) and *theo*- (meaning: god). The mind of the author of textbooks on chemical thermodynamics, accordingly, is faced with an inherent conflict of interest. One has but to compare the

mind of Frederick Rossini (1971), with that of Benjamin Kyle (1999), with that of the various physical chemists involved in the infamous Rossini debate (2007), which erupted in the *Journal of Chemical Education*, with that newer minds, such as Robert Hanlon (2020), to see the difference by which each mind handled the confusion.

It is very easy, in other words, for a scientist, quick to pacify the religion vs science conflict, or to appease the childhood belief system mind within themselves, to try sneak god or god theory into thermodynamics arguments, per reason that the *th*-prefix gives one a sort of ‘back door’ key, to covertly smuggle theology into science.

Hence, accordingly, there is a very-confused ongoing tendency, among many chemical thermodynamics authors, seen in the last century, to presume that one can convolute *theo* into *thermo*, and thereby sell a latent form of god-infused thermodynamics. These can get into the mind like a Trojan horse. The most famous example of this is found in Ilya Prigogine’s 1970s thermodynamics, which is based on Henri Bergson’s 1907 creative evolution thermodynamics. This model infected the minds of many people, like a weed taking roots in a garden, unknowingly in the late 20th century. Many people to this very day, e.g., believe that they are a so-called *far-from-equilibrium* structure, existing at the edge of chaos! This, however, is a god-based theory, sold by Prigogine as science.

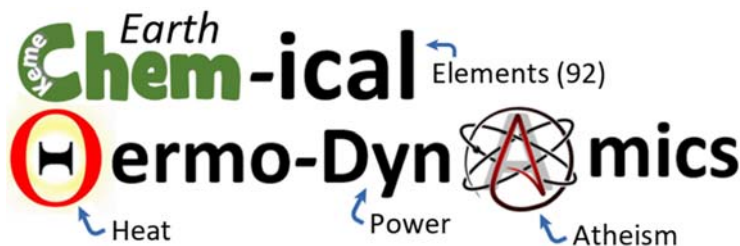
Libb Thims, however, the author of this book, to state openly and directly, is an *explicit* atheist chemical thermodynamicist. We will not be selling coded god theory herein. Moreover, as Thims has also been emersed in nearly two-plus decades of debate on this issue, accordingly, is aware of the inherent and deeply-entrenched underlying terminology conflict, related to the chemical thermodynamics terms: entropy, energy, physics, chemistry, force, and time, which are ‘theologically free’, as Harold Blum (1934) famously stated. These chemical thermodynamics terms, in sum, are the modern replacement terms for the defunct and outdated theological or specifically *clayical theological* terms.¹⁴ In plain speak, the majority of the beliefs of modern people are rooted in the ancient model that humans were made of ‘clay’ and given ‘life’ by the breath of a ‘god’. Thus, to replace and upgrade a defunct model and terms associated with it, one must, by nature, talk about it. Hence the citation predominance of the terms: life and god, seen in Hmolpedia.

Chemical thermodynamics, in its basic principles, is not that complicated. There are 92 elements, that naturally occur within the volume of the earth, called ‘keme’ in Egyptian, the root term of *chemistry*. These elements are heated by the sun to make the things we see moving about us. The sun is not god, nor is the heat of the sun the will or power of god. The letter ‘a’ of *thermo-dynAmics*, stands for *atheism* and the ‘th-’ stands for *sun* or heat.

Yet, as simple as this is, the amount of effort people, historically, have gone to, in attempts to throw or insert *theism*, *anthropism*, or *life*-ism into chemical thermodynamics, has been a grand enterprise? A perusal of the online human thermodynamics pioneers table, which lists the top 500 people, historically and present, to have attempted to apply thermodynamics to questions in the humanities, each person listed chronologically and icon coded, e.g. with a cross icon for theism, gives a quick snapshot of the issue.¹²

To forewarn the reader, atheism is not a topic that standard thermodynamics authors like to tread into. Or, if they do, it becomes an invisible elephant in the room type of discussion. The famous 2006 Rossini debate, which occurred via an exchange of letters in the *Journal of Chemical Education*, is a case in point. Here, closet atheist physical chemists battled closet theistic physical chemists, over the 1971 conjecture by Frederick Rossini, an open theistic chemical thermodynamicist, who said that freedom and security in society could be explained by the chemical thermodynamic terms: entropy and enthalpy, respectively.¹³

To put this in perspective, in Rudolf Clausius’s 1865 *The Mechanical Theory of Heat* (pg. 292), the founding book on thermodynamics, the term ‘life’ is cited one time! Clausius’ use of the term life, in fact, is not even done by him, but is in reference to a quote by William Rankine, from his Sep 1852 article ‘On the Reconcentration of the Mechanical Energy of the Universe’, an article that is a rebuttal to William



Thomson's Apr 1852 article 'On a Universal Tendency to the Dissipation of Mechanical Energy', which outlined the hypothesis that the universe is headed towards 'heat death'.

Willard Gibbs, in his *On the Equilibrium of Heterogeneous Substances* (1876), the founding book of chemical thermodynamics, never mentions the terms: life nor god once! The reason for this is that 'life' and 'god', as concepts or theories, are not needed to explain the thermodynamics of chemical reactions, human or otherwise. Hence, they are not needed. Historical baggage in need of jettison.

Gilbert Lewis, in his *Thermodynamics and the Free Energy of Chemical Substances* (1923), the founding book of so-called modern chemical thermodynamics, does not mention the term god, but does mention the term life, on two pages. The mention of the term life arises the context of a discussion on Maxwell's demon, entropy decrease, and living organisms, as compared to 'matter devoid of life'. Lewis, however, sidesteps the problem, by stating that digression into this topic would take him too far from the subject at hand:

"It would carry us altogether **too far from our subject to take part in the long-continued debate** on the subject of *vitalism*; the vitalists holding that there are certain properties of living matter which are not possessed at all by inanimate things, or, in other words, that there is a difference in kind between the animate and the inanimate."

— Gilbert Lewis (1923), *Thermodynamics and the Free Energy of Chemical Substances*

Lewis, to clarify, more than did his part in the forward progress of knowledge. Were it not for his *Thermodynamics and the Free Energy of Chemical Substances*, this book would have never been written.

Synopsis: Remember, firstly, that 'heat' is what makes molecules animate and move about the surface of the earth; second, anchor the fact, in deepest parts of your mind, that you can find, that *heat* is not a god.

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1. Introduction

“The only time I feel ‘alive’ is when I’m **working** like mad.”
— Vincent Gogh (c.1885), ‘Letter to Theo Gogh’ (Letter 504)

Chapter point: Introduce *first principles* and explain why ‘alive’ needs to be *unlearned*. [length: 9-pgs]

In Apr 2020, an anon American blogger, going by the handle Freaky Bit, a southern belt college student of some sort, in their post ‘I’m Less Alive than Elon Musk’, a blog spurred into existence by thoughts on whether or not the corona virus is alive, stated the following sharp point:¹

“Our definition of being ‘alive’ is not derived from **first principles**.”
— Freaky Bit (2020), “I’m Less Alive than Elon Musk”

This is a correct statement. Our definition of being alive is based on mythological principles. The following, to clarify, are the modern first or core principles:

	Statement	Person	Date	Name	Concur
1.	All things that exist are the coming together of atoms and void.	Leucippus	460BC	Atomic principle	Democritus (420BC) Epicurus (300BC) Lucretius (60BC)
2.	All bodies expand via heat and contract by cold.	Hooke	1665	Hooke-Boerhaave law	Boerhaave (1720) Lavoisier (1787)
3.	The vacuum left by fire lifts a weight.	Vinci	1508	Hooke principle	Hooke (1675) Papin (1690)
4.	A gradient of reactive affinity powers exists between chemical species.	Newton	1717	Query 31	Boyle (1679) Geoffroy (1718) Bergman (1775)
5.	Heat and work are interconvertible in fixed ratio.	Joule	1843	Mechanical equivalent of heat First law	Mayer (1840) Thomson (1854) Clausius (1854)
6.	The sum of the equivalence values, of all uncompensated transformations, at the end of a series of heat cycle expansions and contractions, of a body or system, will have a maximum numerical value, which will be the condition of equilibrium	Clausius	1856	Principle of the equivalence of transformations Second law	Gibbs (1873) Maxwell (1876)
7.	The free energy of a chemical reaction is the true measure of the affinities.	Helmholtz	1882	Thermodynamic theory of affinity "Helmholtz proof"	Nernst (1893) Lewis (1923)
8.	All chemical species have a formation energy , which can be calculated from the free energies of the elements at standard state; the criteria for spontaneous change, is free energy decrease.	Lewis	1923	Combined law of thermodynamics	Doloff (1975)
9.	Natural and unnatural, in physiological processes, are coupled, such that exergonic drives or powers endergonic.	Lipmann	1941	Coupling theory	Blum (1934) Kenoun (2006) Thims (2011)

These nine principles, to clarify, are fairly advanced. Not more than a handful of people, including Newton, Goethe, and Shelley, have attempted to grapple with these so-called ‘new’ first principles, as compared to the ‘old’ first principles, as understood by the Greeks, such as Thales, Pythagoras, Anaximander, and Empedocles. As modern children, we are but told that ‘life’ is a given, and that there are several ‘facts of life’ that we must learn, in respect to being in the condition of the so-called ‘alive state’ or so full of life state, as shown adjacent.

We are also told, in post 1940s decades, that one of the ‘facts of life’ is the second law of thermodynamics, as shown above right, where a grandfather is trying to explain this law to his grandson. This might have been read to the child as life is any thing that ‘feeds on negative entropy’ (Schrodinger, 1943) or life is an ‘entropy reduction’ (Lovelock, 1965). While most children will readily swallow this told-to-be true ‘fact’, and go on their way, a rare few, such as Linus Pauling (1987) or Jonathan Dowling (1998) will question these presumed facts, with objections, and call bunk.

In alignment with these bunk callers, from these nine base or ‘first principles’, which form the foundational basis of the science of chemical thermodynamics, all human movements, known to us as: existence, experience, being, becoming, emotions, and reactivity, etc., can be derived therefrom, no so-called ‘life principle’ needed. This derivation, presently, is being done in the newly forming science of *human chemical thermodynamics*, the footnotes of which found in the 5,700+ articles of Hmolpedia. A basic outline of these principles discussed in practice, can be glimpsed in Goethe’s *Elective Affinities*, which is largely based on first principle #4.

Although we will not be covering this derivation directly herein, aside from a few digressions here and there, we will point out, to the inquisitive reader, that the following publications, shown in ranked order of closeness and correctness, are forerunners to the newly-forming science of human chemical thermodynamics



	Name	Year	Person
1.	System of Nature: Laws of the Moral and Physical World	1770	Holbach
2.	Elective Affinities: On the Nature of the Choice of Our Elective Attractions	1809	Goethe
3.	<i>Will to Power: a Revaluation of all Values</i> (1,067 note fragments)	1888	Nietzsche
4.	<i>New Dimensions in Sociology: a Physico-Chemical Approach to Human Behavior</i>	1987	Beg
5.	On the Nature of Things: Atoms and Void	60BC	Lucretius
6.	<i>Thermodynamics of Humans: Love and Worship</i>	1956	Bazargan
7.	<i>On Nature and Purifications: Four Elements and Two Forces</i>	445BC	Empedocles
8.	<i>Heat Death and the Phoenix: Entropy, Order, and the Future of Man</i>	1975	Dolloff
9.	"Chemical Thermodynamics in the Real World"	1971	Rossini
10.	<i>Testament</i>	1729	Meslier
11.	<i>Physics of Relationships: Thermo-Chemical Approach to Relationships; Complex Equilibria of Men and Women; Reaction Kinetics</i>	2000	Hirata
12.	<i>Force and Matter: Principles of the Natural Order of the Universe, with a System of Morality Based Thereon</i>	1855	Buchner
13.	"The Thermodynamics of Love"	2001	Hwang
14.	"The Fundamentals of Thermodynamics Applied to Socioeconomics"	2009	Wallace

Hence, before proceeding to this new HCT subject, we must *unlearn* the idea that we are ‘alive’.

1.1 | Why must ‘alive’ be unlearned?

Why must ‘alive’ be unlearned? To situate this question, view the following description by Vincent Gogh, written to his brother Theo:

“When I am on my own, I have less of a need for company than for unrestrained work, and that is why I am forever ordering canvas and paints. The **only time I feel ‘alive’** is when I am **working** like mad. In society, I would be less aware of this need, or perhaps I would do more complicated things. But when I am left to my own devices I rely on the passion for the work that overcomes me from time to time, and then I let myself go, beyond all the limits.”

— Vincent Gogh (c.1885), “Letter to Theo Gogh” (Letter 504)

This was written during a period when Gogh completed 2,100 artworks, including some 860 oil paintings, which has resulted to make him the second greatest painter of all-time, according to Pantheon.world rankings. Five years later, Gogh would cut off his own ear and cut his reaction existence short, at the age of 37, by suicide.

Now, the ‘feeling’ Gogh refers to here is real. This feeling can be quantified, neurochemically, e.g. by high levels of measured dopamine. Second, the ‘work’ Gogh refers to here can be quantified in units of joules, in respect to the force that moved his body, during this ten-year period to paint 2,100 artworks. This is all clearly understandable by the mind. The problem here is that the word Gogh uses to describe this heightened mind state, i.e. ‘alive’, is not recognized by physics, chemistry, nor thermodynamics, it is a word that is only recognized by mythology. Hence, new scientific terminology is needed to define this ‘feel alive’ (at the edge of suicide) state of mind.

Next, in respect to why alive must be abandoned, is what is called the projection problem, namely we feel our heart beat, and call this the property of being ‘alive’. Because we feel this beating within ourselves, we presume this ‘alive property’ must exist elsewhere in the universe, and so we project this property into other things, so to appease our confusion about things. When, however, this presumed to exist alive property is projected above us, say to stars and planets, or below us, say to chemicals reacting and DNA, is when the discerning mind objects:

“I refuse to believe that the sun, moon, and stars are living beings.”

— Leucippus (c.460BC), Fragment #1; cited by Erwin Schrodinger (1949) in his “Do Electrons Think” talk

“Let us abandon the word ‘alive’.”

— Francis Crick (1966), *Of Molecules and Men* (pg. 5)

Here, Leucippus (in respect to stars) and Crick (in respect to DNA), both being atomic theorists, state frankly that the terms alive or living do not make sense in respect to atoms, motion, and reaction.

Beyond the empty terminology issue and the projection problem, the fundamental reason why this alive unlearning process must accrue, is found in the language and logic of thermodynamics. Specifically, the reason is found in the title of Sadi Carnot’s 1824 treatise *Reflections on the Motive Power of Fire and on Machines Fitted to Develop that Power*. Fire, in short, produces a moving or motive power. Heat has a moving power associated with it, in a modern sense. The title does not specify that fire or heat produces ‘living moving power’! The following, to clarify, is the opening paragraph of this famous treatise:

“Everyone knows that **heat can produce motion**. That it possesses vast motive-power no one can doubt, in these days when the steam-engine is everywhere so well known. **To heat also are due the vast movements which take place on the earth**. To develop this power, to appropriate it to our uses, is the object of ‘heat engines’. The study of these engines is of the greatest interest, their importance is enormous, their use is continually increasing, and they seem destined to produce a great revolution in the civilized world.”

— Sadi Carnot (1824), *Reflections on the Motive Power of Fire* (pg. 1)

One of these vast movements, which take place on the earth, are movements of humans. Carnot, at this point, to clarify, is not concerned with ‘motions of humans produced by heat’, but rather he is concerned with outlining the basics of the universal principles of the so-called abstract universal heat engine, the logic of which holding on any planet or location in the cosmos.



In short, Carnot conceptualizes his universal heat engine as being made of three parts, namely a hot body, working substance, and cold body:

1. Hot body
2. **Working substance**
3. Cold body

The *hot body*, here, is the fire or boiler, or any body that will release heat, that can be put in contact with the ‘substance’, which is the mass of material inside of the volume of the piston and cylinder. The *cold body* is running cold water from a nearby river, or any body that can absorb heat, that can be put in contact with the ‘substance’ that is inside of the volume of the piston and cylinder. The *working substance* is the matter that is inside of the volume of the piston and cylinder.

In the social extrapolation of this model, the substance that does the work, is you, your work group, or your work-producing social system, depending on point of analysis.

In the basic model, aka the Papin engine (1690) model, shown previously, the substance is water, which can be heated to transform the substance into steam, and then cooled to convert it back into water, producing ‘work’ therefrom, in one universal heat engine cycle.

In Carnot’s universal model, however, the *working substance* can be ANY material substance or body in the universe, which can be made to expand or contract via the action of heat, water generally, but also things such as a volume of air or an iron bar, being the examples he gives. Carnot says the following about his working substance:

“The phenomenon of the production of motion by heat, needs to be considered from a sufficiently general point of view. It is necessary to establish principles applicable not only to steam engines, but to ALL imaginable heat engines, **whatever the working substance, and whatever the method by which it is operated.**”

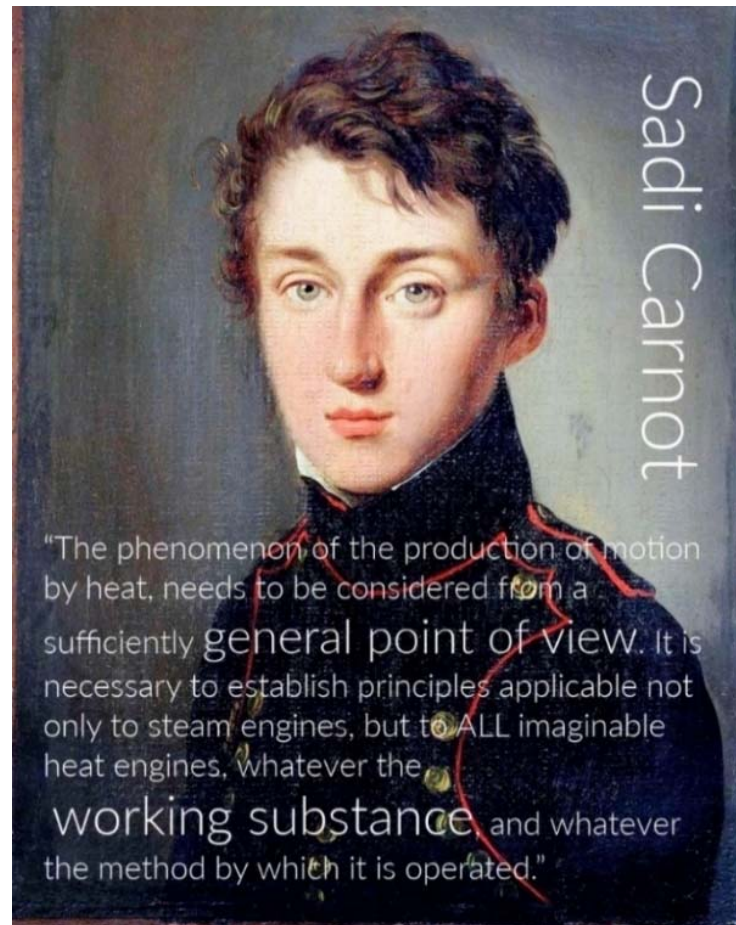
— Sadi Carnot (1824), *Reflections on the Motive Power of Fire* (pg. 6)

Skipping forward 75-years, we find that Carnot’s ‘reflections’ have become the *laws of the universe*, that his ‘working substance’, came to be defined as the ‘system’ of thermodynamics, which when applied to humans, become the *social system*, and that ‘heat’, or *caloric* as he called it, has become a new quantity called *entropy*. The prime example of this extrapolation, to humans, is found in the *social mechanics* publications of Leon Winiarski:

“The energy of social transformation is submitted to the same laws as the energy of the universe. These are the laws of thermodynamics. We can thus represent a primitive horde, as a material system in movement, the driving forces that cause the movement being hunger and love or attraction. This **transformation is continuous across social system**. Just as any movement of any mass of the universe is accompanied by **production of heat**, so too are the **masses of biology and society** transformed into mental phenomena of different kinds. Here we can apply the first principle of thermodynamics: that of the equivalence (the principle of Mayer).”

— Leon Winiarski (1898), “Social Energy and its Measurements” (pgs. 250-51)

Social systems do indeed ‘transform’, and these transformation do indeed involve the movement of mass and the production of heat. The mass in question here are the people of society and defined thermodynamically as Carnot’s *working substance*, aka the ‘system’ of thermodynamics. The problem here



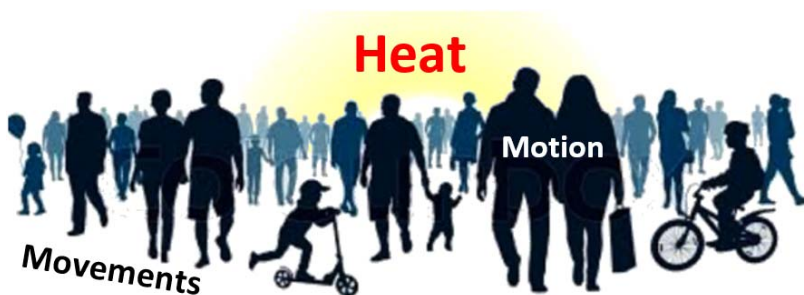
is Winiarski's use of the phrase 'mass of biology'. This is where we run into linguistic quagmire, in a conceptual and physical sense. What exactly is the SI (system international) unit of a biomass?

The terms 'life' and 'bio' are not employed as concepts in Carnot's universal model of motion of bodies by heat, nor are they needed. There is a hot body, there is a cold body, there is a 'working body', as Rudolf Clausius (1850) later renamed Carnot's *working substance*, and there is *motion* produced therefrom, and *work* yielded thereby as a result.⁴ Hence, if one desires to model social transformations using the universal models of Carnot and Clausius, one will find that the use of any sort of 'bio' is a non-permissible term.

Now, as Carnot has told us, this new universal model is applicable to ALL motions we see occurring on the surface of the earth, including the types of movements shown below.

To employ this new universal model, we must also employ the new language that we are given. In other words, if we want to understand ourselves and our motions,

thermodynamically, we have to let our minds adjust to the new view of *motion produced by heat* and the new language and terms used in this new universal model.



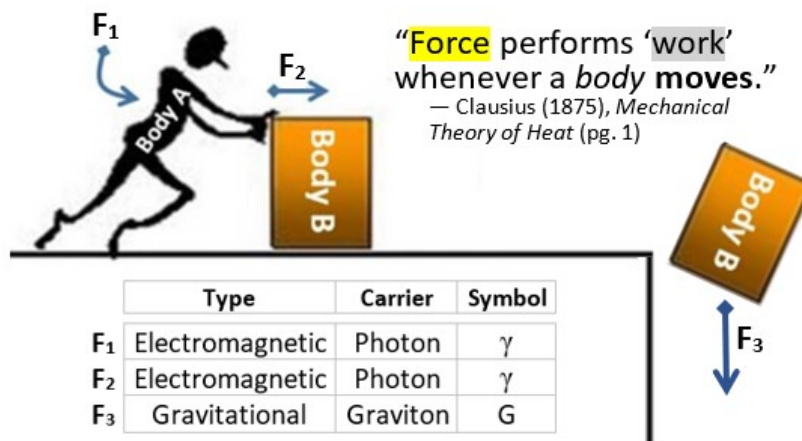
"The first business of a man of science is to proclaim the truth as he finds it; and **let the world adjust itself** as best it can to the new knowledge."

— Percy Bridgman (1919), "Letter to R.M. Hunter"

In other words, we cannot go backwards in time and try to rename Carnot's term *working substance* into the term *living substance*, 'living mass', or, as has been attempted, 'living system' (James Miller, 1965). This is what is called, by Goethe, in his Echo cipher, Narcissistic projection. In other words, by the term *living substance*, used in the Carnot universal heat engine sense, our minds are attempting to project a historical anthropism into pure physics-based heat theory. Correctly, we have to redefine our minds, and do a reverse projection, wherein we reformulate our view of things to the new logic of heat-based physics. In other words, we have to let Carnot heat based physics logic project into our minds, not the reverse.

1.2 Force moves bodies

A second way to think about why 'alive' needs to be unlearned, at minimum in respect to modern scientific publication, dialogue, and debate, can be seen in the following opening paragraph of Rudolf Clausius' 1875 *Mechanical Theory of Heat*, which is the foundational textbook of thermodynamics. Clausius, building on Carnot, and the Coriolis work transmission principle, defines work and force as follows:



"Every '**force**' **tends to give motion** to the **body on which it acts**; but it may be prevented from doing so by other opposing forces, so that equilibrium results, and the body remains at rest. In this case the force performs no work. But as soon as the body moves under the influence of the force, work is performed. But, as soon as the body moves under the influence of the force, work is performed."

— Rudolf Clausius (1875), *Mechanical Theory of Heat* (§: Mathematical Introduction, pg. 1)

In other words, it is the 'force', not the body, that gives motion to the body. The basis of this logic stems from the principle of inertia, which states that a body will only move when acted on by the intermediary force of another body. Thermodynamically, this has come to be defined, by Gustave Coriolis (1829), as the principle of the transmission of work or work transmission principle.

The logic of this is diagrammed as below, in the form a person pushing a box, a force pushing the person, and the gravitational force pulling the box towards the earth and the earth towards the box.

Here, the first force F_1 , could be the result of a man who is working at a construction site and is pushing a box of waste debris off a construction floor into a dumpster below, wherein the knowledge that he is going to get paid, at the end of the day or week for the work, motivates his mind into movement. Alternatively, it could be a guy pushing his ex-girlfriend's stuff into the local dump, because the 'force' of the situation has

determined to his mind that he never wants to have anything to do with her again. The act of pushing the box into the dump, in the latter scenario, operates as a formal severing of the ‘bond’ of the former relationship.⁶ This bond holds what is called bond energy.⁷

In other words, we think we are performing the work, but in reality, it is the force that is performing the work through us. James Maxwell, the person who discovered the electromagnetic force, during his last months of existence, famously put this force moves us logic, thusly:

“I cannot help thinking about the immediate circumstances which have brought a thing to pass, rather than about any ‘will’ setting them in motion. **What is done by** what is called **my ‘self’** is, I feel, done by something greater than myself in me.”

— James Maxwell (1879), “Comment to Fenton Hort when terminally ill”

Hence, if we want to think clearly about why we do things, we need to expunge from our minds the idea that a ‘living force’ move us. In reality, it is just the *electromagnetic force*, pictured below, that moves us, and the electromagnetic force is not alive.

Secondly, to clarify, in respect to Maxwell’s expression ‘something greater than myself’, we note that his last poem, entitled *A Paradoxical Ode: After Shelley*, was dedicated to Percy Shelley, England’s most famous atheist. The atheistic forces that Shelley believed moved him were the forces of chemical affinity, i.e. the force that causes hydrogen to react with oxygen or man to react with woman.

Many, to note, will laugh at the premise that they do not move themselves. A prime example, comes from the following statement by Indian chemical engineer DMR Sekhar, in reflection of his previous debates with Thims on abioism:

“I can’t stop but laugh at myself when I think that I am not ‘alive’ or **I am not moving myself.**”

— DMR Sekhar (2011), ‘Eddington’s Psycho-Syndrome’, blog

Another example can be found in Thims’ 2019 interview of Mirza Beg, in Pakistan, about his 1987 physico-chemical sociology model, which explicitly defines people as reacting together according to the logic of chemical reaction models, reactants transforming to products. In the interview, video available on YouTube, Beg tries to argue that the force of reactions between people, in a physico-chemical sense, is the ‘will’ of the god Allah, at which point Thims brings up on the video screen an animation of Maxwell’s electrodynamic force, wherein, upon seeing this, Beg, similar to Sekhar, laughs.⁷ There is, after all, *truth* in laughter, children, and wine, so say the sages.

The second force F_2 , in the Clausius diagram, can be calculated using basic physics, in respect to the mass of the box, and the friction coefficient of the surface. The third force F_3 , can be calculated from Newton’s second law of motion, as the product of the mass of the box and the acceleration of gravity.

To restate, the name of the force operating in the first two cases is the electromagnetic force, and in the latter case the gravitational force. The unit of work performed by the force, whatever the type of force, is the same, namely the joule. There is no such thing as a ‘living joule’.

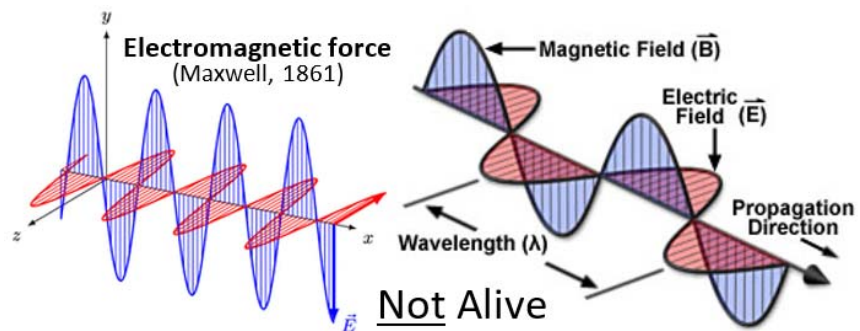
Subsequently, if a person desires to know their place in the universe, thermodynamically

speaking, according to founding definitions, then one needs to jettison from their mind the anthropomorphized premise that there are *two classes of work* to two types of ‘force moving bodies’. Correctly, there is only one class. Force moves bodies is the only class. The unit of this class is joules.

In this perspective, it does not matter if the ‘body’ in question is a package box, like body B, or a human, like body A, pushing the box, or bodies, such as: the earth, the sun, an atom, a virus, a drop of water, a DNA strand, a crystal growing, the earth, the Milky Way, a rock tumbling down a hill, a stick on fire, or whatever. Certainly, to note, the equations describing F_1 , have only partially been worked out, and are far more *complex* than those that describe F_2 or F_3 .

In respect to the word ‘complex’, as this term more often than not, tends to mean that we are ignorant about the details, the following is a recent dialogue that occurred on the Hmolpedia Reddit forum, which gives insight into the confusions surrounding F_1 force and subjects such as ecology or economics.

In Aug 66AE, a reddit user named ‘Feelings Aren’t Fact’, who we will refer to as FAF, posted a discussion topic: ‘Has this Sub Heard of Complexity Theory?’, stating that: ‘everything that is attempted to be explained in this sub through its new science is already out there in systems [theory], chaos theory,



information theory, and complexity'.⁹ The read is encouraged to check out 'Brian Castellani's 2011 online 'Map of Complexity Science' to get some background.¹⁰ A condensed summary of the FAF vs Thims dialogue is as follows:

- **Thims:** Those are all defunct theories from the 1990s. You mix them all together, you get a 'melting pot theory', and the brew doesn't taste good. They've all been covered in Hmolpedia 2020.
- **FAF:** It's not defunct. It describes how systems *work* in the *real* world today.
- **Thims:** Work? What's that? Oh yah, that is defined as a 'force moving an object through a unit distance'. Science that defines this? Oh yah, I think it is called 'thermodynamics', if I'm not mistaken?
- **FAF: Work has two definitions ding dong.** My context clearly is using it in the context of 'how systems OPERATE'. You're living inside of a book. I think you fell too deep into it that you can't make sense of 'reality' without looking up a definition of what someone says it is first.
- **Thims: What 'force' moved your body to type your last response?** When you figure that out, get back to me.
 - **FAF:** No *force* moved me. I move myself.
 - **Thims:** An 'I' moved your 'self'?
 - **FAF:** Yes.
 - **Thims:** What is the nature of this 'I', say in terms of complexity science, economics, or cosmology? Does this 'I' move other things in the universe?
 - **FAF:** I was moved by electrical signals in my brain.

Here we see mental dualism confusion par excellence. If *work* has two definitions, then *force* would have two definitions? Force, however, has only one definition: work done divided by distance of body moved.

The dialogue responses shown in light gray, to note, are fictional; but added in theme to previous dialogues encountered by Thims, such as the 2011 DMR Sekhar dialogue, previous. The dialogue essentially stalled out at this point. The reader only has to read John Herschel's 1865 'On the Origin of Force', to see how confused things become when one attempts to maintain that the forces of the mind are unique and autonomous types of forces, that act on their own.¹¹

Likewise, in a 2009 dialogue Thims had with Philip Morarity, an Irish physics professor, popular as the professor on the 60 Symbols YouTube channel. Morarity, in argument with Thims about whether or not a group of students, standing in a field, has an 'entropy', attempted to derogate the Clausius definition of work and force, by referring to it as a 'high school definition' of force. Yet, in the same argument, Morarity is abysmally ignorant of the fact that it was Rudolf Clausius who originated the concept of entropy, which Morarity claimed to be an expert on, in respect to arrangements of bodies of students on a college campus?

Presumably, FAF, like Morarity and Sekhar, has lost sense of their basis of reality. All three have some sort of dualism model of forces and work, i.e. a 'two definitions of work' model of the universe.⁶ The keen reader has but to remember the Clausius rule: forces move things. Only a *force* can move a body. A 'self' cannot move a body. This is what is called telekinesis.

Owing to cultural folklore and things taught in youth, many will hold to the model that the atomic structure called 'human' is moved by things called: self, will, soul, consciousness, among other varieties of anthropomorphic terms, whereas every other atomic structure in the universe is moved by forces defined by laws of motion. This is where unlearning followed by relearning come into play, particularly of one wants to stay clear of confused 'ding dong' moments, like FAF.

Beyond the examples given, the details of the nature of the Clausius F_1 force, such as regards the relationship between the electromagnetic force and gravity, the nature of memory in respect to movement, the feeling of choice, etc., need not concern us, as we are but interested, at this point, in only learning about terminology correctness. Lastly, the majority of the abioists we will discuss here, are largely ignorant of physics, thermodynamics, and the electromagnetic force, yet still have arrived at the enlightened view that life does not exist.

Subsequently, the person who clings to the idea of 'living work' or 'living motion', or what not, is but clinging to an ancient fable, namely the idea that the 'force', for certain types of motion, of certain types of bodies, is either the will or act of a god, or some metaphysical directional that comes from the 'self' or some illusive electromagnetic wave in the mind or imagined neuroanatomical location, like Descartes famous

IF YOU SEE ME
TALKING
TO MYSELF
JUST MOVE ALONG
I'M SELF
EMPLOYED
WE'RE HAVING A
STAFF MEETING

pineal gland. Correctly, the forces involved in moving humans are of two types: gravitational force and electromagnetic force, or these two as one force.⁵ Neither of these forces, however, are divine nor ‘alive’.

In addition, aside from the basic scientific incorrectness of the term ‘alive’, which Alfred Lotka (1925) says amounts to jabberwocky when used in scientific discourse and Francis Crick (1966) advises that we abandon, is that, based on the author’s decade of experience of being the founding editor of the *Journal of Human Thermodynamics*, from 2005 to 2015, and having worked through the submission process, editing process, open peer review process, heated debates derived therefrom, years wasted on needless and baseless terminology squabbles, mostly being personal belief system objections, that the unlearning process must begin, to say the least, before human chemical thermodynamics can be derived full and presented correctly, free of ‘anthropisms’, as Charles Sherrington (1938) refers to the terms ‘life’ and ‘death’. This publication, in short, is a prolegomena to *human chemical thermodynamics*.

1.3 | Unlearn: Old false principles

In the previous section, we saw an outline of the nine fundamental first principles, upon which all of human experience can be explained. In these new principles, the words ‘life’ and ‘death’ are not to be found? Life and death are what are classified as false principles. As children we are taught these at a young age, typically before age five.

Only a few, in history, have dismissed ‘life’ and ‘death’ as false principles. The first to dismiss life and death as false principles, was Empedocles, as explained in his 445BC poems *On Nature* and *On Purifications*. We can also glimpse aspects of abioism on Lucretius’ 60BC poem *On the Nature of Things*, which outlined the basis of atomic theory.

The important point to keep in mind, at this stage in our reading, is that unlearning something that was ingrained into our mind in youth, is difficult process; as the classic unlearn philosophers of the past have stated:³

“Fables should be taught as fables, myths as myths, and miracles as poetic fancies. To teach superstitions as truth is a most terrible thing. The **child mind accepts and believes them**, and only through great pain and perhaps tragedy can he or she be in after years relieved of them. The reason for this is that a superstition is so intangible a thing that you cannot get at it to refute it.”

— Hypatia (c.400), *Publication*

“You must acquire the best knowledge first, and without delay; it is the height of madness to learn what you will later have to **unlearn**.”

— Desiderius Erasmus (1497), “Letter to Christian Northoff”

“It is now some years since I detected how many were the **false beliefs** that I had from my earliest youth admitted as true and how doubtful was everything I had since constructed on this basis.”

— Rene Descartes (1641), *Mediations on the First Philosophy*

“Almost all of the latter part of my life has been spent **unlearning the nonsense** I learned in my youth.”

— Godfrey Higgins (1833), *Anacalypsis, Volume One* (pg. x)

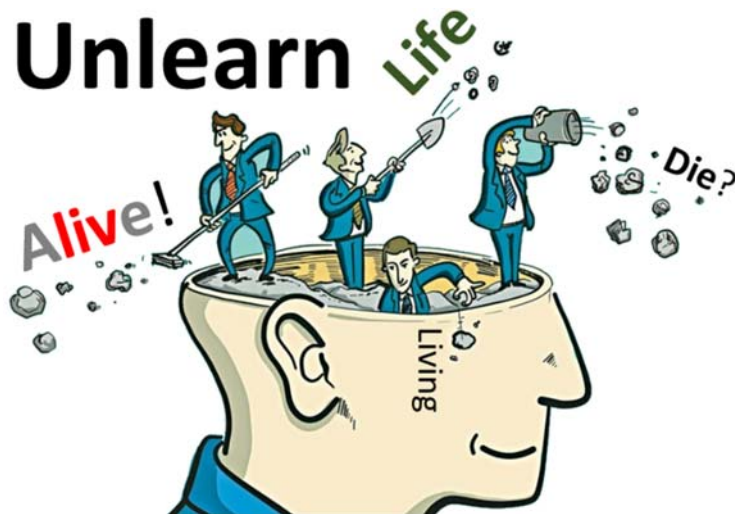
“It takes the latter half of all of one’s lifetime to **unlearn the falsehood** that was instilled into us during the earlier half. Generation after generation we learn, unlearn, and re-learn the same lying legendary lore. Henceforth, our studies must begin from the evolutionist standpoint in order that they may not have to be gone over again.”

— Gerald Massey (1883), *The Natural Genesis*

“Beware of **false knowledge**; it is more dangerous than ignorance.”

— Bernard Shaw (c.1920), *Publication*

Once the unlearning process as actuated, and the new principles are learned, one will ‘feel’ more alive than they formerly considered themselves to be, per reason that their feelings, and new terminology employed to



describe these feelings, will be centered moreso with reality, as far as we currently understand reality and the movements and mechanism of the universe, as defined by the nine first principles.

Synopsis: Force moves bodes. Work is the name of the effect we assign to when a body is moved through a unit distance by the force. Life cannot be explained in terms of force moving bodes and work. One, accordingly, can either believe in life or work, but not both.

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5. Note: it can be argued that the gravitational force is just a form of the electromagnetic force, but this is a digression beyond the focus of this book.
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2. Game of Life

“I, too, believe in thermodynamics! But remember, the **game of life** is to beat thermodynamics; and life is one of the important account holders in the soil bank. The system is not controlled by simple inorganic thermodynamics.”

—John Wazer (1977), Symposium on the Economy of Chemistry of Phosphorus, London¹

Chapter point: Life, or rather ‘reaction existence’, is a game, and it has new rules. [length: 10-pgs]

In 1860, Milton Bradley, an American color lithographer and mechanical draftsman, inspired by a British board game a friend gave him, invented the now-famous *Game of Life*, aka L I F E, shown below, the object of which was to accumulate a 100-points to win the game:



The key boxes are shown bolded. One comes out of infancy, at below left. One goes to school or becomes educated in some way. One develops ambition. Thereafter, one goes to the checker squares they go to. The game is laden with moral and purpose implications. Ideally, according to Bradley, one will want to go up the diagonal, left to right, from infancy, to cupid, to happy old age of fifty – along the way, trying to avoid landing on squares such as: poverty, jail, ruin, or fat office . Many people certainly do play the game this way and, in reality, ‘win’ so to say.

To play the game, in the original version, players spun a ‘teetotum’, a dreidel-like six-sided die, shown adjacent, so to advance to squares representing social ‘virtues’, such as: influence, honor, and honesty, and

‘vices’, such as poverty, prison, or ruin, with the former earning a player points and the latter retarding progress.

All of these checker board squares represent ‘real’ events that occur in the daily existences of ‘real’ people, as they come out of infancy. We quote the terms **REAL**, because events and people are *real things*, that can be measured and defined exactly. Life, conversely, is not a thing. Life has never be measured, quantified, or defined exactly. There is no so-called system international SI unit for ‘life’ the way there is for things such as energy, light, or mass. Chemists have never measured an amount or mass unit of life, say in a test tube or on a scale of some sort. Life, in short, is a *non-real thing*, as we will endeavor to explain herein, based on modern scientific knowledge and growing historical consensus.



Game of Life
(Teetotum)

That ‘life’ does not exist, however, does not imply that the squares shown, in Bradley’s *Game of Life*, do not exist. While some squares, such as ‘Cupid’ or ‘Fat Office’, are inexact in their terminology, the events or states of existence in each square, such as poverty or jail are **REAL** events. They are all reality-based descriptions of events, states, or processes of existence.

To understand these real events, states, and existence processes, correctly, in terms of what modern knowledge affords us, we must upgrade our game terminology and learn the new rules. The Bradley model, wherein the fates of humans are based on spinning dice, and the world is flat and two-dimensional, to cite two outdated examples, is what is now classified as the *old game* of playing existence.

The new game of ‘[NOT] life’, but correctly game of ‘reaction existence’, or some equivalent term, not yet invented, is what is called the **Game of Entropy** (Lewis, 1925). This game has rules that are called *irreversible*. The following is the first main sub-rule of irreversibility:

“Crebillon treats the **passions like playing cards**, that one can shuffle, play, reshuffle, and play again, without their changing at all. There is no trace of the delicate, *chemical affinity*, through which they attract and repel each other, reunite, neutralize each other, separate again and recover.”

— Johann Goethe (1799), “Letter to Friedrich Schiller”, Oct 23

Crebillon treats the **Passions** like **Playing Cards**. There is no trace of any *fine chemical affinity*, by which they are attracted and repelled, united, neutralized, again divided and repaired.



Entropy, in short, is the new way we define *heat*, in terms of a formula. Heat is what is behind what we call the ‘passions’. The microforces mediating these passions are defined as the *chemical affinities*. In the laboratory, specifically in the physical chemistry laboratories of Gilbert Lewis, at the University of California, Berkeley, in the early 20th century, it was found that these chemical affinities could ne measured by what is called the change in the *free energy* of the reaction. This free energy, however, has nothing to do with card shuffling:

“The second law of thermodynamics, says that the bound energy of an isolated system can only increase, the **free energy** only decrease. For a still sharper formulation, the degree of unavailability of energy of a system is given by the measure called ‘entropy’. These statements, like those I made about the *free energy* of information in an ordered deck of cards, will **trouble my critics**. When two systems, A and B with independent histories are considered as a single system, AB, their entropies are additive.”

— David Hawkins (1964), *The Language of Nature* (pgs. 193, 218)

In short, what Goethe and Hawkins are saying in the above to paragraphs, is that the new rules of the game state that the passions, which are ‘forced’ into existence by the *chemical affinities*, operating on the mind, are irreversible and not governed by the laws of dice or card shuffling, but rather by the laws of chemical thermodynamics, wherein *free energy*, aka total system energy less entropic system energy, is the measure of the affinities or forces of reaction, thereby actuating the jumping of people from square to square.

2.1 | Lewis: **Game of Entropy** (1925)

The *new game*, of how existence is played, is now called the *Game of Entropy*, according to Gilbert Lewis, as talked about in his *Anatomy of Science* (1925).¹ Humans, according to Lewis, no longer are spinning dice-determined things, but are ‘cheats in the **game of entropy**’, as he puts things.² Lewis hid the rules of this

new game in his *Thermodynamics: the Free Energy of Chemical Substances* (1923). The Lewis rules, however, are rather encrypted, and only a few handfuls of people know these rules, semi-correctly.

One who came the closest, thus far, to learning how to play the game was Norman Dolloff, as he explains in his *Heat Death and the Phoenix* (1975). In the game, according to Dolloff, what comes out of a chute or down a slide, e.g. a turtle or a rabbit, has an organism synthesis equation:



The following is the Dolloff organism synthesis equation:

$$\sum n_i \rightarrow \text{organism}; \Delta G_R^\circ = +; \Delta S_R^\circ = -$$

where n_i are the elements that go into forming the organism, and ΔG_R° is the formation energy of the organism that comes out of the chutes and ladders mechanism of the reaction. To paraphrase Alan Watts, we 'come out of the' a wave-filled universe, the same way the turtle shoots out of a tube, or a rabbit goes down a slide:

"You are a **function** of what the **whole universe** is doing in the same way that a *wave* is a function of what the whole ocean is doing. We do not 'come into' this world; we **come out of it**, as leaves from a tree. As the ocean 'waves', the universe 'peoples'. Every individual is an expression of the whole realm of nature, a unique action of the total universe."

— Alan Watts (c.1955), *Publication*

The shoots and slides described here are to be envisioned as the product end of a multi-day, month, or year chemical synthesis.

Not everyone, however, has discerned the rules as good as Dolloff. To cite one example of game rule confusion, in the publications of James Lovelock. In 1965, while working at NASA, on the planned Voyager trip to Mars, he proposed that to find and measure a 'life form', scientifically, one would need to look for an 'entropy reduction'. In Lovelock's mind, reduced entropy would mean increased order in a group of elements, such as carbon, hydrogen, nitrogen, etc., on a planet, and hence be an ordered so-called *life form*. Into the 1990s, the Lovelock rule had become part of the game, then being called the *Find That Line* game:

"When, in 1998 to 2004, I was at the NASA Jet Propulsion Laboratory, we would have endless discussions on the definition of life. What is life? The discussions were always hinged on the metaphysical and religiously-infused idea that there should be a 'line' [?] — things on one side of the line were alive and things on the other were not. The **game was to 'find that line'**. People argued and continue to argue about this endlessly. Should it 'reproduce', '*reduce the entropy*' [Lovelock, 1965] of its environment, 'have DNA', or what?"

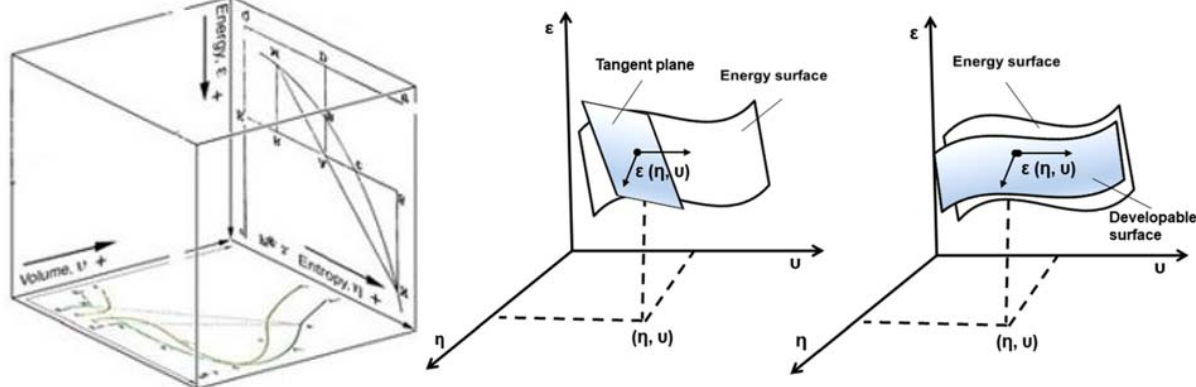
— Jonathan Dowling (2013), *Schrodinger's Killer App* (ref. #88, pgs. 429-30)

While this Lovelock entropy reduction rule or rather hypothesis is not completely incorrect, it is nevertheless not exactly how the rules go, per reason that both entropy and a second quantity called *enthalpy*, crudely called 'heat content' of the system, which is associated with changes in the chemical bondings, are involved in the formation of the turtle or rabbit, not just entropy alone, which is what most people believe.

In respect to Bradley's *Game of LIFE*, to put things into simplified context, each player starts the game in the infancy square, lower left. At this point or rather state of existence, they have birth formation energy, described by a specific Dolloff formation energy ΔG_{R1}° , which we have labeled as reaction formation energy one, symbolized by the R1 subscript. When a player moves to a new square, such as 'school', which is equivalent to climbing a ladder, then they will have a new Dolloff formation energy ΔG_{R2}° , which will be realized when they complete or realize that square, e.g. graduate from school.



The board of the new Lewis-Dolloff game itself is three-dimensional, comprised of the two-dimensional view of the surface of the earth, plus a direction perpendicular to the surface of the earth which map what are called formation energy landscapes or Gibbs free energy surfaces, which look something like those shown below right.⁸ Basically going down a chute or a slide is equivalent to going down an energy surface:



These surfaces, which were invented, for the most part by Willard Gibbs, the so-classified smartest America ever, so said Einstein, are fairly difficult to explain in words, to say the least. This is humorously evidenced by the following anecdote at Yale about a student who went to see Gibbs, the central inventor of the surface of the new game board, to ask him about it:

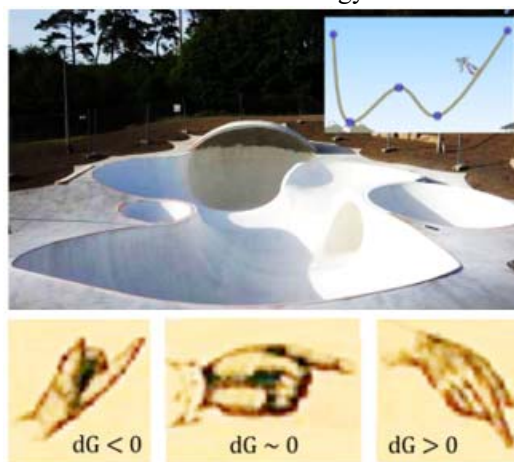
“Gibbs was unknown to the people about him, who were beginning to hear rumors of some achievement, dimly realized, and not, as it seemed, capable of being described. The stories grew in New Haven. One tale was of a student who went into see Gibbs in his office. He asked him about a diagram which had been explained in class; and Gibbs, to explain, began to draw imaginary lines across the floor. **The lines grew more complicated. They reached up the walls, to the ceiling, across the door;** and, as the student left exhausted, he saw that Gibbs was still standing in the center of the floor, hopelessly enmeshed in his own diagram.”

— Muriel Rukeyser (1942), *Willard Gibbs: American Genius* (pgs. 328-29)

Details aside, these so-called Gibbs surfaces can be visualized as ‘waves and valleys’, or chutes and ladders, when the *formation energy*, symbol G , of a given state of existence, or Bradley checker square, is plotted on the z-axis, with the x-axis and y-axis corresponding to moves or rather ‘jumps’, to a new Bradley checker square. Different energy states of existence generally, for humans, cannot presently be seen directly, but only graphically approximated, presently, but also ‘felt’ in the sense of feeling the force, in respect to the coldness or hotness of a given situation, state, or checkerboard square. For smaller molecular species, however, these have been calculated both experimentally and theoretically.

The Lewis-Dolloff *Game of Entropy* boardgame, in short, looks something like the surface of skate park, as shown adjacent, wherein the bottom of each well corresponds to what is called a free energy minima or point or location of stability and happiness in the *Game of Entropy*. The deeper the ‘well’, or so-called ‘drop in’, in skating lingo, the greater the stability seen in the bond formation of the structure formed; structures such as the ‘industry’ square or ‘Cupid’ square, on the Bradley board. Also, well deepness correlates to free energy *released*, the deeper the well, the greater the energy release, actuated during the formation of the structure formed. These energy *releases* or absorptions crudely equates to the upward pointing fingers on the Bradley board, whereas downward pointing fingers correspond to free energy *absorption*, and energy indifference corresponds to a forward (or backward) horizontally pointing figure, as shown.

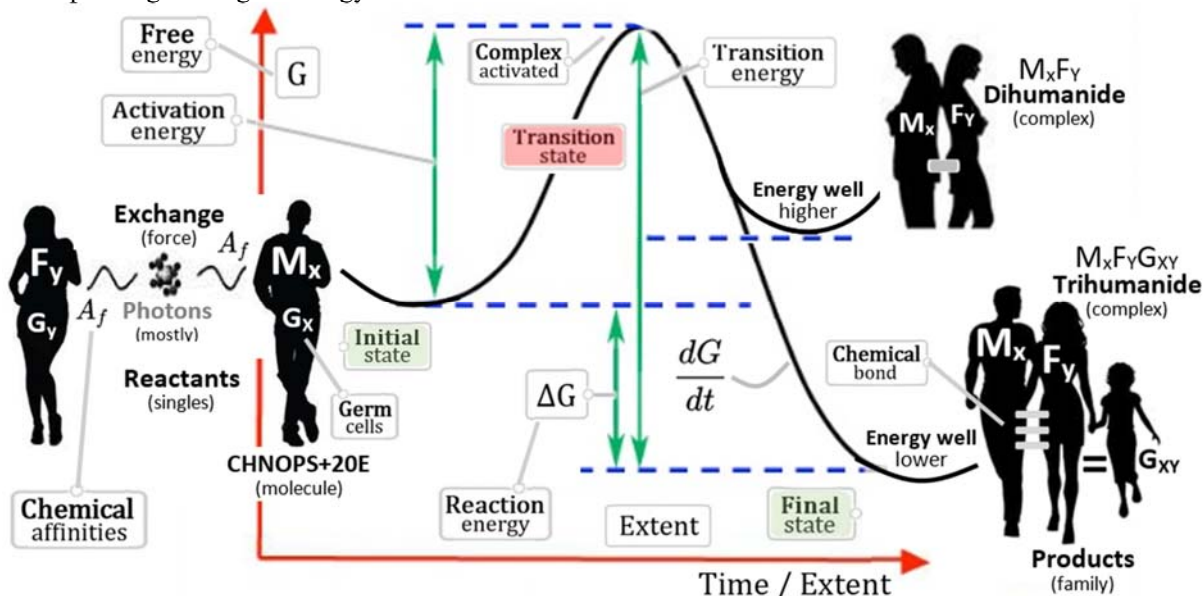
These formation structure bonds, be it of the industrial type or Cupid type, can be measured experimentally by the amount of energy required to break the bond, such as was first determined in the 1920s, for bond of the H_2 molecule, and mapped out graphically by Walter Heitler, as explained in his *Elementary Wave Mechanics* (1956). In simple terms, think about this in terms of the amount of energy required to break two people in a friendship or relationship apart? If little energy would be required to break the bonds of a friendship, relationship, or occupational structure, then this corresponds to a shallow skate park well, close to the level of the ground, with little well depthness.



Getting to the peak, ridge, or ‘hump’ in skate lingo, or cross-over between two wells, such as shown below left, at a skate park in Orlando, is what is called the ‘activation energy barrier’ of a reaction coordinate diagram as shown below right:



In short, the real board game will look like skate park surface, wherein the humps are transition states or points between two energy wells or checker board squares, which can either lead to good checker squares, e.g. fame, or not so good checker squares, e.g. jail. Graphically, in respect to landing on the Cupid square, the each of skate park ridges, shown above, that one stops at or goes over before when transitioning to a new drop down, correspond to the peak of a *reaction coordinate* curve below, at the point of the *activated complex*, after which one can fall either into an *unhappy relationship state*, as shown below right, corresponding to a higher energy well:⁹



Or one can *fall in love* into a happier state, at a lower energy well position, such as confident married couple with new child, at lower right.⁴

Going down the incline into a well, is generally considered the fun and exhilarating part of the game, and corresponds to a slide into what are called products formation, such as the dihumanide molecule (M_xF_y) or trihumanide molecular complex ($M_xF_yG_{xy}$), shown above.⁹ This is depicted by the person having fun going down the curve in the photo at the Venice Beach Skate Park, Los Angeles.

2.2 | Gates model (2014)

To go through another example, referring again to the Bradley LIFE board, supposed a player lands on the ‘Industry’ square. This is a finger pointing up square.

Physico-chemically, aka according to the Lewis-Dolloff rules of the game, this means in order for the player to become successful in that square, i.e. to realize the industrial objective, the work of the industry has to be what is called *exergonic*, from *exo-*, meaning: outward, + *-gonic*, meaning: work, which means that work in the form of Gibbs energy has to be released outward; this is defined as follows:

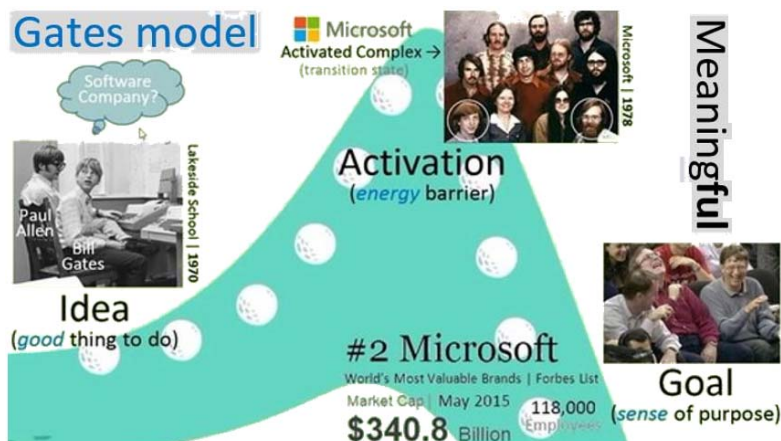
$$dG < 0$$



Adjacent we see Bill Gates and Paul Allen in the ‘School’ square, in 1970, but working to jump to the ‘Industry’ square, shown on a reaction coordinate diagram, in the reactants location, before the activation energy barrier, aka top of the ladder, prior to going down the chute. This is called the Gates model, as introduced by Thims in 2014, and employed in various talks and lectures, as an illustrative way to understand social industry reactions, chemical thermodynamically.⁵

Historically, the word *exergonic*, along with its antonym *endergonic*, were introduced in 1940 by Charles Coryell, and American chemist, in his ‘The Proposed Terms Exergonic and Endergonic for Thermodynamics’, wherein he defined the new terms ‘*exergonic*’ (energy-yielding) and ‘*endergonic*’ (energy-requiring), as definitive of the reactions that provide free energy, and so can produce work, as opposed to reactions which work must be expended to cause the reactions to go.

Jumping Bradley squares, in this manner, might then lead to the ‘Success’ square (5 points), then ‘Honor’ square (5 points), then to the ‘Happiness’ square (5 points), such as shown by Bill Gates and Paul Allen having a good time, joking and laughing, at a basketball game at the bottom of their very-stable energy well, pictured above.



2.3 | Planck (1909) and Asimov-Ginsberg (1975) models

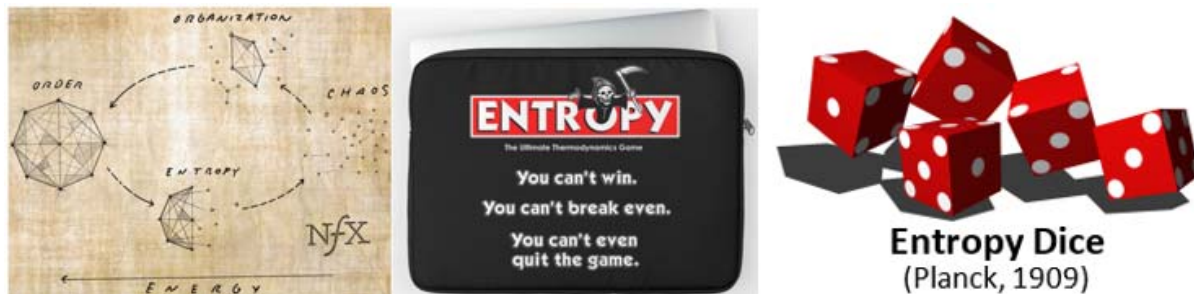
Beyond the basic outline given above, most people, since thermodynamics was invented as the new science of the universe, being ignorant of the specific physico-chemical and thermodynamical details, have been led into believing false game rules. A few of these false game rule promoters, include: Max Planck (1909), Isaac Asimov (1970), Allan Ginsberg (1975), and Arthur Bloch (1977), to name a few.

Max Planck, who did his PhD on the second law of thermodynamics, really got the game confused. In 1897 to 1909, while working to find a light as function of temperature equation for light bulbs, which was a prize the power companies were paying to solve, conceived the idea that entropy is function or measure of disorder and that go play the game of entropy one needs so-called probability dice, shown red colored blow. This model, which is fully incorrect, is called the Planck entropy model.¹³

In 1970, Isaac Asimov published an article entitled ‘In the **Game of Energy and Thermodynamics** You Can’t Break Even’, wherein, presumably building on Lewis’ 1925 mention of people as being ‘cheats in the game of entropy’, stated that in the ‘game of energy and thermodynamics’, you can’t break even. This idea eventually got parodied by Allan Ginsberg (1975) and Arthur Bloch (1977) into what have become known as the three rules in the game version of thermodynamics, which are:¹¹

1. You can’t win.
2. You can’t break even.
3. You can’t quit.

Moreover, many people buy into these three incorrect rules and plaster them on their laptop covers, cell phone cases, or coffee cups, to ruminate on while they drink their morning coffee:



The image at right is by Pete Flint, from his article ‘Entropy: the Unseen Threat to Startups’ (2018), who thinks the first rule of the game is: ‘entropy is disorder which always increases with time’. This, however, is one of the rules from the confused Planck game version of entropy.

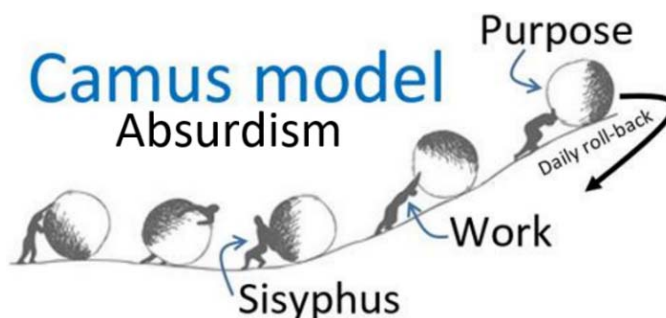
2.4 | Camus model (1942)

Then there are those such as Albert Camus, one of the founders of the French existentialism movement, who thinks the entire game, when god model is discarded, becomes ‘absurd’. Camus describes this absurdism model as follows:

“In man's futile search for meaning, unity, and clarity in the face of an unintelligible world devoid of god and eternal truths or values, **one realizes the absurd: existence is a Sisyphean one**. The struggle — to push the same boulder up a hill each day, which eventually rolls back down to its starting point at the end of the day — itself, however, is enough to fill a man's heart. One must imagine Sisyphus happy.”

— Albert Camus (1942), *Absurdism*
Philosophy (paraphrased)

In short, according to Camus, point of the entire game is to roll a large ball to as high up the slope as they can, like the myth of Sisyphus, only to let it roll back down again, repeating the exact same thing endlessly, and that this model defined the *work* of existence, and hence the nature of the game.⁶ Camus even says the following about the search for equilibrium points in the game:



“In a drunken sky we light up the suns we want. But nonetheless the boundaries exist and we know it. In our wildest aberrations we dream of an ‘equilibrium’ we have left behind and which we naively expect to find at the end of our errors.”

— Albert Camus (1955), *The Artist and His Time* (pg. 168)

Many modern people, thermodynamics authors included, actually believe that this is how thermodynamics works. Bill Poirier, an American theoretical chemical physicist, to go through one example, in his *Concise Guide to Thermodynamics* (2014), cited the Camus *dreamed-of-equilibrium* model as one of the rules of the game! Camus, however, was no physicist, and likely never opened a thermodynamics textbook. Others who have held the Camus model in their mind as a viable option, however, become more complex, in respect to game rule understanding in respect to belief system. Richard Weiss, an American physicist, philosopher, and thermodynamicist, e.g. believed that consciousness resided in a thermodynamic system in the brain that was the size of a sand grain:

“The part of the brain which is the seat of consciousness may be a thermodynamic system no larger than a grain of sand.”

— Richard Weiss (1976), *Relativistic Thermodynamics, Volume Two* (pg. 142)

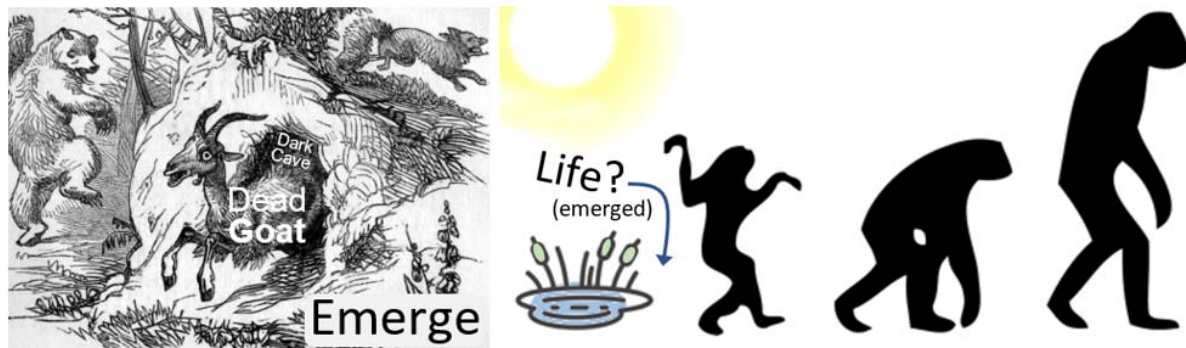
Weiss also had books by Charles Sherrington, Charles Darwin, David Brewster’s *More World’s than One: the Creed of the Philosopher and Hope of the Christian* (1854), Camus’ *The Myth of Sisyphus* (1942). Weiss was thus attempting to grapple with the big picture.

Correctly, to clarify, the various lower state energy wells, discussed previous, are where Camus’ dreamed of equilibrium locations reside.

2.5 | AEON: *Emergence of Life* Game (66AE)

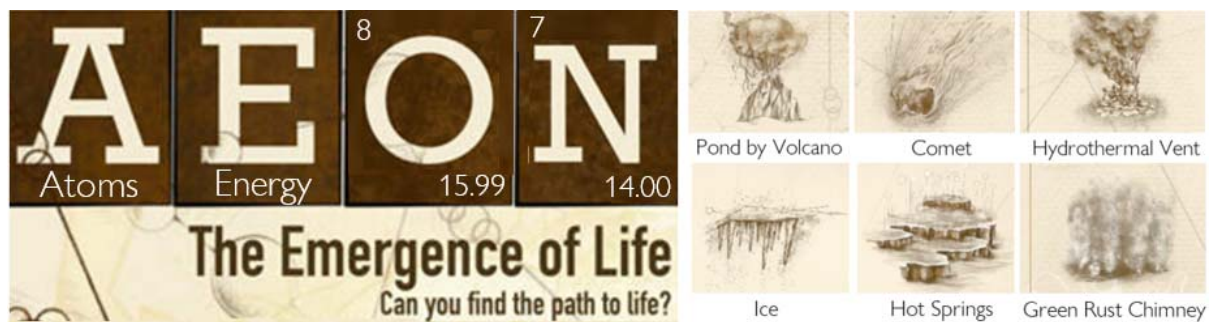
In 2021, Bernhard Altaner, and about a dozen others from the physics department of Ludwig Maximilian University (LMU), Germany, made a free pdf print-and-play board game, called *AEON: Emergence of Life*, available at aeon-game.eu. To win the game, players have to figure out how life ‘emerged’ from energy and atoms?

The term ‘emerge’, to clarify, is short for trying to figure out how a dead goat came ‘suddenly’ out of a *dark* cave, as shown below. The key etymological importance of the term *emerge* or *emergence* is the word ‘dark’.¹⁴ The so-called *emergence bioism* theorist, will typically aim to construct some sort of contrived explanation, said to have occurred at some point in time, and then leave all other questions below that point in the dark, and not take the question down further into the darkness and try to shine the light around. This is typically the case whenever this the term *emerge* is employed in argument, e.g. consciousness ‘emerged’, free will ‘emerged’, life ‘emerged’, and so on.

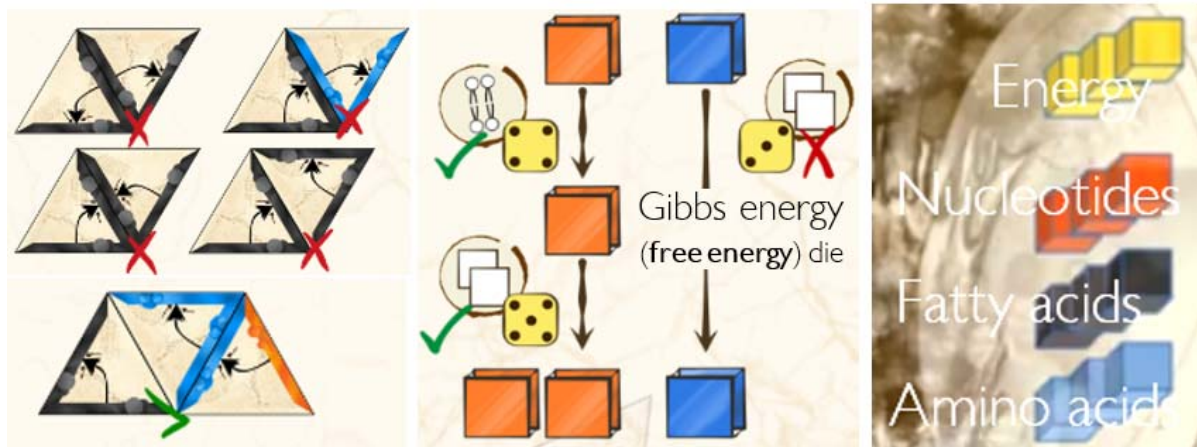


The rules of the *AEON* emergence of life game, stipulate that 'life' arose from one of six possible locations, namely: a Darwinian warm pond by a volcano, was carried to earth by a comet, arose from heated hydrothermal vents in the ocean, came frozen in ice, from hot springs, or from a green rust chimney, as shown adjacent.

To play the game, one prints out the six different boards, each board themed on one of six theoretical origin of life above environments, namely pond by volcano, comet, hydrothermal vent, ice, hot spring, or green rust chimney:



One then prints out triangle-shaped 'reaction tiles', which are shown below left, which are connected different ways, i.e. arrow directions matching and color edge matching, to make reaction mechanism or networks. Then one buys some 'resource cubes', colored: yellow (energy), blue (nitrogen), orange (phosphorus), and black (carbon):



With the resource cubes, players can be used to make 'biomolecules', which the game defines as: nucleotides, fatty acids, and amino acids. To make the synthesis reactions happen, one rolls a 'free energy' yellow die, shown above middle, hand has to get a number above their energy requires to make the reaction go. The goal is to get three different mechanism components: membrane, metabolism, and replication, by matching the reaction tiles. Also, one needs to have three 'resource cubes' of each color, by in their environment location. The first player to do this wins.

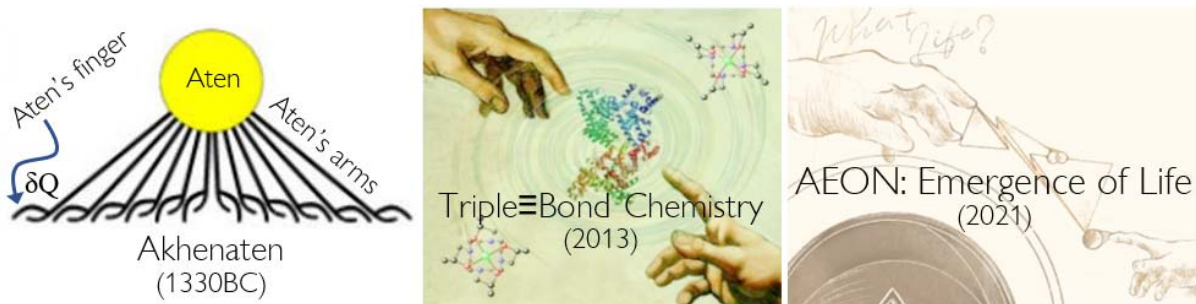
2.6 | Finger of god

A salient problem with the *AEON Emergence Game* of Life is that they have the finger of god touching the finger of Adam in the background, as shown below right. This, of course, is a sketch of Michelangelo's 1512

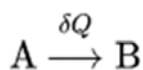
painting done on the ceiling of the Sistine Chapel, Rome. The two fingers, in the AEON version, are connected by some of their game 'reaction tiles', therein alluding to the idea that reaction energy is god.

This is compared to the finger of god touching a protein molecule, which touched the finger of Adam, from the 2013 *Triple≡Bond Chemistry* article "Chemical Formula of a Human", shown above middle, which discusses the human molecular formulas of Sterner and Elser (2000) and Thims (2002).

Both of these, in turn, can be compared to Akhenaten's 1330 so-called Aten model of sun god, conceptualized as solar disc, whose rays of light are anthropomorphized as long outstretched arms with powerful sun ray tipped "finger". The Aten model, carved on the walls of Amarna Egypt, is forerunner to the Michelangelo model:



In the original Akhenaten model, which some have speculated to have been the world's first semi-scientific naturalistic model of the origin of things, teetering on proto-atheism, the rays of light conceptualized fingers, shown as units of heat δQ , are driving mechanism that forms everything. In chemical formula terms, this is defined as follows:



In this model, we must note that the sun's rays are ALWAYS touching the earth, from the moment the sun formed and ignited 4.6 billion-years-ago. Subsequently, if one wants to believe in life made by heat, then the moment life started would be the second the sun ignited. This, however, is called panbioism.

This AEON game version, while interesting, and certainly a grade above that of the Camus absurdism game model, and the Planck entropy dice model, is nevertheless incorrect in its fundamental principles. There is, as we will explain, no such thing as a *bio*-molecule, nor an 'emergence of life', per reason that heat input has never stopped, rather, in the correct view, only CH^+ based elemental animation has increased over time. The species $\text{C}_{20}\text{H}_{28}\text{O}$ (retinal), $\text{C}_{14}\text{H}_{10}\text{S}_2$ (DTA), and $\text{C}_{14}\text{H}_8\text{O}_2$ (AQ), e.g. all become animate, when heated, by either bending or walking. To call these species 'alive' is but anthropism, bent over backwards. The resounding conclusion, accordingly, is that we are not alive! This takes some time for the mind to process.

Lastly, to clarify, there is no 'finger of god' in chemical thermodynamics.

2.7 | Chemical thermodynamics: REAL rules

The 'real' chemical thermodynamics 'game of existence' is far too complicated to explain in this book, beyond what has been said thus far, suffice it to say that NO dice, yellow colored free energy dice or Planck entropy dice, nor spinning number-sided teetotums are involved. The real rules involve discussion of a measurable formation energy, which is behind the formation of each thing, water molecule, ant, or human, an energy referred to above as 'free energy', which is defined by the slopes on reaction energy surfaces, which are constructed by partial differential equations. Moreover, in the game reactions are 'coupled', exergonically, together, meaning that one player's move, effects or rather powers the other players. These rules only can be explained in a full textbook treatise on *human chemical thermodynamics*, described from the first principles up.

In this direction, before we learn the more advanced specifics of the new game rules and can play this new fun game, we have to *unlearn* the idea that 'life' exists, per reason that this is NOT a word recognized by physics and chemistry, as Charles Sherrington, in his *Man On His Nature* (1938) so intelligently informs us.³ Hence, if we desire to play the new game of existence by the 'real rules', as far as we presently understand them, we have to first jettison from our minds what is *not* real. The first and foremost of these non-realities is 'life'. The concept of *life* to the humanities, presently, is what the concept of *ether* was to physics.

Synopsis: What we used to call, as children, the 'game of life', is now, as modern adults, a game played by the rules of chemical thermodynamics.

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1. Porter, Ruth; FitzSimons, David. (1978). *Phosphorus in the Environment: Its Chemistry and Biochemistry* (pg. 92). Wiley, 2009.
2. Note: 'cheats in the game of entropy', in modern terms, is not correct. Gilbert could only see as far as he had pushed knowledge this point.
3. <https://hmolpedia.com/page/Unlearn>
4. https://hmolpedia.com/page/Hwang_model
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(b) Dais, Photis. (2021). "Impact of Gibbs' and Duhem's Approaches to Thermodynamics on the Development of Chemical Thermodynamics", *Archive for History of Exact Sciences*, 75(18):1-74.
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(b) <https://youtu.be/rjkMz6Qz0us>
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15. https://hmolpedia.com/page/Emergent_bioism

3. When Will the Sun be BORN Tomorrow?

“I know that the ‘sunrise’ is an optical illusion. My teacher told me so.”

— Henry Mencken (c.1925), attributed; said in: *Inherent in the Wind* (1960)

Chapter point: To summarize how, over the last two-millennia, we have come to learn that the sun is not alive, nor is it born each morning. In a similar manner, in the next two-millennia, we will come to learn that we are not alive, nor born. [length: 5-pgs]

To help put the subject matter of this book into the multi-millennia-long big picture historical context view of things, in respect to the massiveness of the problem we are attempting to broach, we will quickly look at the change in the opinion of what we now refer to by the word ‘sunrise’ as this term has changed over the last five-thousand years.

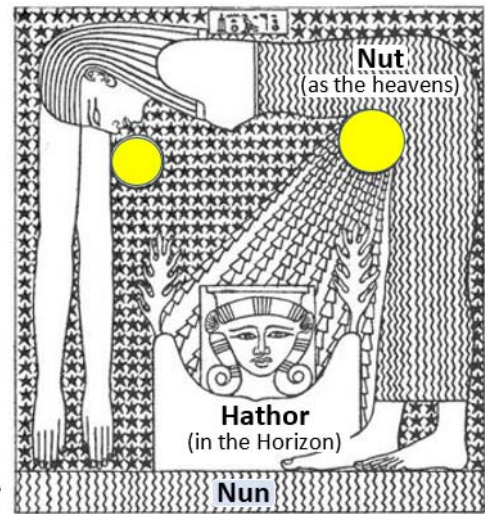
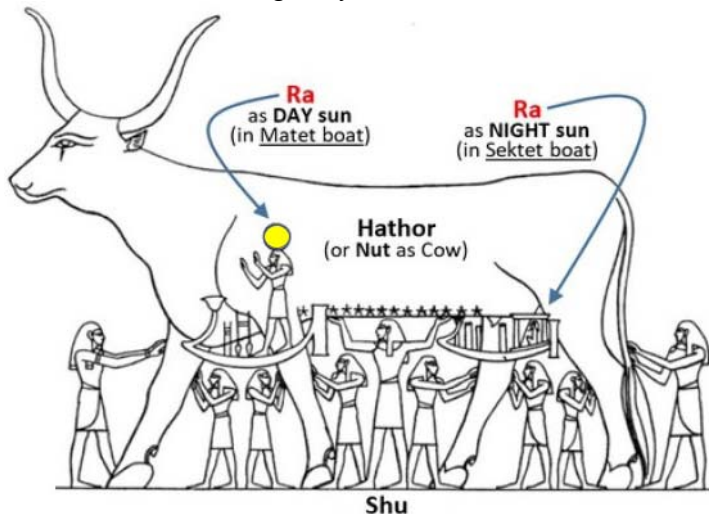
In 3,300BC, before the founding of the Egyptian empire, the sun god was called Horus or ‘Hor’. Horus was the supreme god of Egypt. Many of the earliest pharaohs, e.g. Hedju Hor (c.3300BC), Ny-Hor (c.3270BC), or Hat-Hor (c.3230BC), named themselves after Horus, to signify that they were the sun god on earth, or something to this effect.

Each night Horus, conceptualized as the sun, was said to do battle with the evil god Set, conceptualized as the red desert, darkness, and lifelessness. This is where the term *sunset* derives, i.e. the ‘sun is with Set’, meaning Horus is battling Set. Horus in most cases, eclipses aside (note: this is the origin of Thor losing his eye in battle), of course, would, in the end be victorious, and emerge from the darkness the next morning after his nightly battle, just as we see the sun shine each morning.



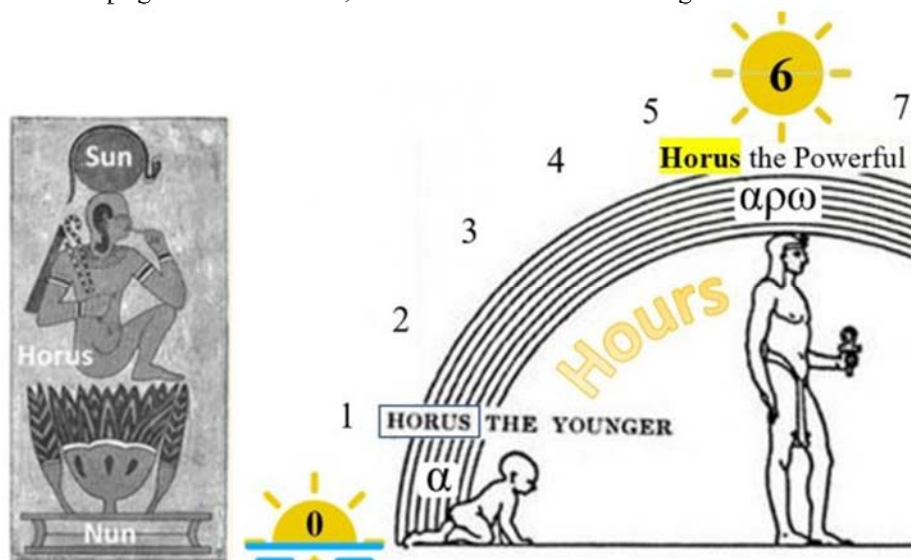
3.1 | Horus rising = Horizon

In 2,900BC, Egyptians also came to believe Horus, as a living ‘sun god’, was born, each morning, out of the womb of the goddess Hathor, a name which means ‘House of Hor’ or ‘home of Horus’. Hathor, astrologically, was conceptualized as the stars of the Milky Way, and envisioned in the shape of a giant milk-filled cow in the night sky, as shown below left:



In 2,500BC, in Heliopolis, Egypt, the sun birth model was switched to that where the main sun god was Ra, and Horus became his great-great grandson. In this new model, Ra, on his solar boat, either road through Hathor, such as shown above left, or he road through the body of the heaven goddess Nut, as shown above right, being ‘born’ each morning out of the womb of either Hathor the cow or Nut the heaven goddess, depending on century. In this new model, when the sun god was birthed out of the womb of Hathor or Nut, the sun was said to be ‘born’, like a baby human, and then ‘rise’ to stand on his feet.³

Hathor eventually became syncretized with the heaven goddess Nut, shown above right, such that when the sun was birthed out of the womb of Nut, the morning light of sun was said to appear on what was referred to as 'in Hathor on the Horizon', as shown by the rays of light shining, coming out of the womb, falling on the face of Hathor. This is where the term *horizon*, originated, meaning: 'Horus rising', 'Horus rising', 'Horus being born', e.g. out of a lotus that rises out of the water of the Nile river, as shown below left, who then stands upright or rises. Hence, 'sun rise' means 'Horus rising':



Egyptians in this period, in sum, believed the sun was born, like a human, and then rose, like a baby rising or growing to become the morning sun, sometimes referred to as 'Horus the younger' (in the morning), 'Horus the powerful' (at noon), and 'Horus the elder' (at sunset).³ This model, also is the origin of the word 'hour', in the sense that there are 12 hours of Horus and 12 hours of Set, or '24 hours a day' (24 stages of Horus a day') as we say in modern terms.

In Memphis, Egypt, in about 2800BC, an alternative version of the birth of the sun, was that the fire making god Ptah, made a golden egg, as shown below left, and ignited it into birth with his magic fire drill, out of which was born the bennu bird or phoenix, flying like a flaming bird into the sky.²



In 800BC, Greeks, who all traveled to Egypt to learn their models, developed the theory, modeled on Ra riding his solar boat, that the sun was a god name Apollo and that he pulled sun around the sky in his flying chariot, as shown above middle. Also, in respect to the birth of the sun, this was said to have occurred, not out of the womb of a goddess any longer, but in a dark cave or dungeon of some sort in the east, as shown above right.¹ Here, we see a step in what is called de-anthropo-morph-ism, namely the expungement of human-form based models to explain natural phenomena, with more semi-scientific-like models, e.g. dark cave instead of dark womb.

In 467BC, Anaxagoras conjectured, based on the new 'evidence' of a recently fallen meteorite, that the sun was not a god, nor alive, but rather a hot fiery stone. The reward he received for asserting this new view, was that he became the first person in history to be legally 'indicted for the crime of atheism', for his assertion that the sun was not a god. Moreover, in 438BC, as law was passed in Greece, which stated that 'society must denounce those who do not believe in the divine beings or who teach doctrines about things in the sky'.

In 150AD, Ptolemy, in his *Almagest*, introduced the 'geocentric model', according to which the sun was not a god, but rather a flaming ball that went around the earth, the earth being considered stationary object, at the center of the universe. This became the new model of solar movement for the next 1,200-years. In this period, people, instead of saying 'sun birth' or 'sun god is with Set', began to say 'sun rise' or 'sun set', the previous mythological meaning being forgotten over time.

In 1543, Nicolaus Copernicus, in his *On the Revolutions of the Heavenly Spheres*, overthrew the earth-centric model of Ptolemy, and replaced it with a sun-centric model, according to which each year the earth rotates around the sun, which is stationary, and that each day the earth rotates on an axis, and that what was previously meant by sun ‘rise’, correctly now meant that a portion of the earth surface had turned toward the sun, and hence become lighted, as shown below right.



The sun no longer ‘rose’, nor was ‘born’, with each morning, as people had believed for time the last 200,000 years of human-like thinking about things.

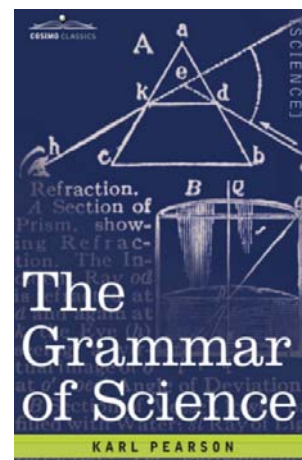
It took another two to three hundred years for the implications of the Copernican revolution to sink in, and now presently most people now believe that the word ‘sun rise’ actually means ‘earth turn’. Grammatically, in every day talk and in most scientific publications, we still use the term sunrise, even though it is not scientifically correct. The reason, seemingly, why there is no push to change this term or coin a new term, or debate about this term in scientific journals, is the basic fact that no one any longer believes the sun is alive, or that the sun is a god, or that the sun rotates around the earth. These basic facts are all taught to children before the age of five.

In respect to the subject matter of this book, the equivalent of a Copernican revolution with regard to the term ‘life’ has not yet accrued. There has, however, begun to be pushback, in respect to the free use of life-based terms used in scientific discourse and publications.

The first to address this problem was Karl Pearson, who in his 1892 *The Grammar of Science*, sought to broach the problem of the misuse of incorrect terminology in modern scientific discourse. This famous book, of note, was the first book on young Einstein’s Olympia Academy reading list. In Pearson’s book we find the following:

“If these terms: ‘unit-mass of living matter’, ‘resultant of organic forces’, ‘continuity of organic substance’, etc., biologists have adopted from physics, are used figuratively, we ought to **find them re-defined**.”

— Karl Pearson (1892), *Grammar of Science* (§9.1: Relation of Biology to Physics, pgs. 328-31)



Here, Pearson is asking what exactly is an ‘organic force’ or what is a mass of living matter’, in terms of pure physics? In other words, the terms *living matter* and *organic force* are grammatically incorrect, scientifically, i.e. in the language of physics and chemistry, and hence the need to be ‘redefined’. This entire book, in short, a follow-through of Pearson’s suggestion that we ought to redefine all bio-related terms, using correct, accurate, and exact scientific grammar, coining new terms, along the way, if need be.

Subsequently, while we can get away with using terms *sunset* (Horus battling Set) and *sunrise* (Horus born and rising) in colloquial speak, and for the most part in scientific publications, without any objection, the same is not the case with regards to *life-based* terms, in physics, chemistry, and thermodynamic publications. The reason for this, as we will explain, is that there are similar Egyptian myths behind the etymologies of all life-based terms (e.g. bio, vita, alive, living, zoo, etc.,) that do NOT function as working terms, when employed at the chemical and molecular level. Hence, terminology reform and *redefinitions*, as Pearson says, are in order.

3.2 | Star birth → Star formation

Astronomically, in modern scientific publications it is no longer technically appropriate to use the term ‘star birth’, in discussion about the science of stars and galaxies, but rather the standard term that is commonly

employed now is ‘star formation’.⁵ The basic definition of this term is that a star is *formed* from a molecular cloud. This has roots in Ovid’s *Metamorphosis*, and so-called meta-morphology in general.

3.3 Creation → Synthesis

While on the topic of stars, most of the elements of the period table are made by a process termed ‘stellar nucleosynthesis’, meaning the synthesis of new nuclei, e.g. carbon, nitrogen, oxygen, within stars. The term synthesis, from *syn-*, meaning ‘sun’, + *-thesis*, meaning: ‘placing; to put together’, meaning to combine, arrange, or put together by the heat, light, or energy operations of the sun. Likewise, the opposite term analysis, from *ana-*, meaning: ‘thoroughly’, + *-lusis*, meaning: ‘loosening’, refers to the process in which the components of the bound state of an element, chemical, or molecular species, becomes thoroughly loosened to the point that they are no longer attached in a bound state unit, complex, or structure. This is summarized as follows:

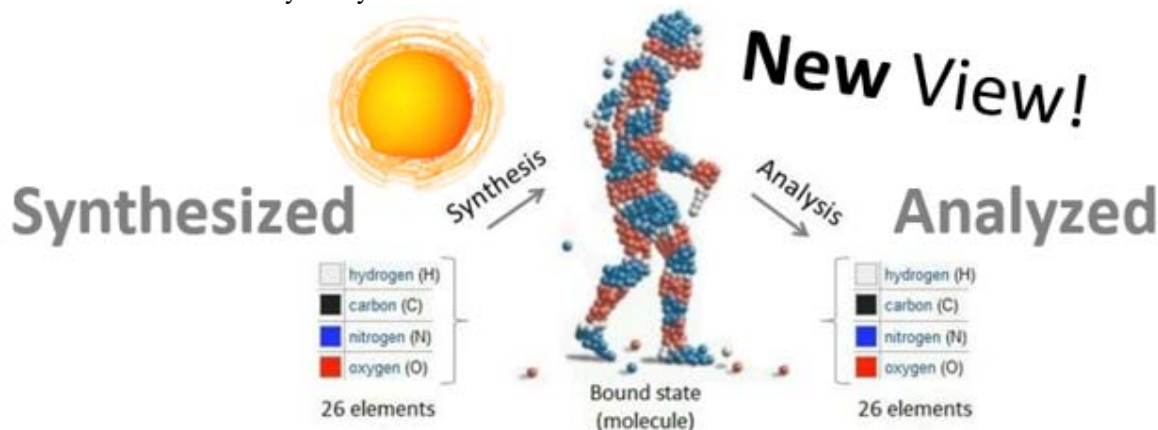
“The formation of a compound by putting together the elements of which it is composed, is termed ‘synthesis’, from two Greek words, *sun-*, together, and *-thesis*, a ‘placing’. The decomposition or taking to pieces of a compound body, in order to discover its constituent elements, is called ‘analysis’, from two Greek words, *ana-*, thoroughly, and *-lusis*, loosening.”

— John Bidlake (1858), *Elements of Chemistry* (pg. 6)

Hence, nucleosynthesis means the formation of elements within stars. Thus, we don’t say that carbon was ‘born’ at some point, or that helium was ‘birthed’ out of this or that reaction, but rather that carbon and helium were *synthesized*.⁶ The premise that hydrogen was ‘born’ at some point is what is called the old view:



The new view is called ‘synthesis’, and is a logic that holds for chemicals and molecular species, as well as for plants, animals, and humans, per reason that each of these things is but a hydrogen derivative. Thus, the following diagram shows elements: hydrogen, carbon, nitrogen, and oxygen, among others, are *placed together* (thesis) by the sun or heat, specifically by what is called the electromagnetic force, which is what light is made of, to form things like: water, CO₂, rocks, bacteria, fish, monkeys, or humans. Humans, in short are not ‘born’ but correctly are synthesized:



In addition, in the reverse process, shown above right, things like: water, CO₂, rocks, bacteria, fish, monkeys, or humans, do not ‘die’, but correctly become *analyzed*, i.e. the elements of each thing or species become thoroughly loosened by the very same forces that placed them together in the first place. This is what is called the Empedoclean view or model of things.

The key point to keep in mind at this point, is to remember the word ‘synthesis’. Namely, humans, from a physico-chemical point of view are *synthesized* things, i.e. put together by heat, they are not *created*

things, i.e. created by god or higher powers. This new view will be important in the ‘When did Goethe Become Alive?’ chapter.

In sum, from the point of view of a human as being a thing or elemental species *synthesized* by heat, the power of the sun, or generally the workings of the universe, the process of synthesis, involves an 18-year, micro-second-by-micro second, mechanism, parents meeting to child leaving home to go the world, before a person is actually formed, according to the formation energy point of view of things, the formation energy, defined as the Gibbs energy of formation, symbol ΔG_f in units of joules per hmol of species. Hence, from the Gibbs energy point-of-view, one cannot technically say when a person comes ‘alive’, when the mechanism is views start to finish, over the 18-year period of the formation of a person.

Synopsis: Just as the sun is not alive, nor is born nor dies, so to are humans not alive, but only chemically reactive, and come into being by synthesis, and go out of being by analysis.

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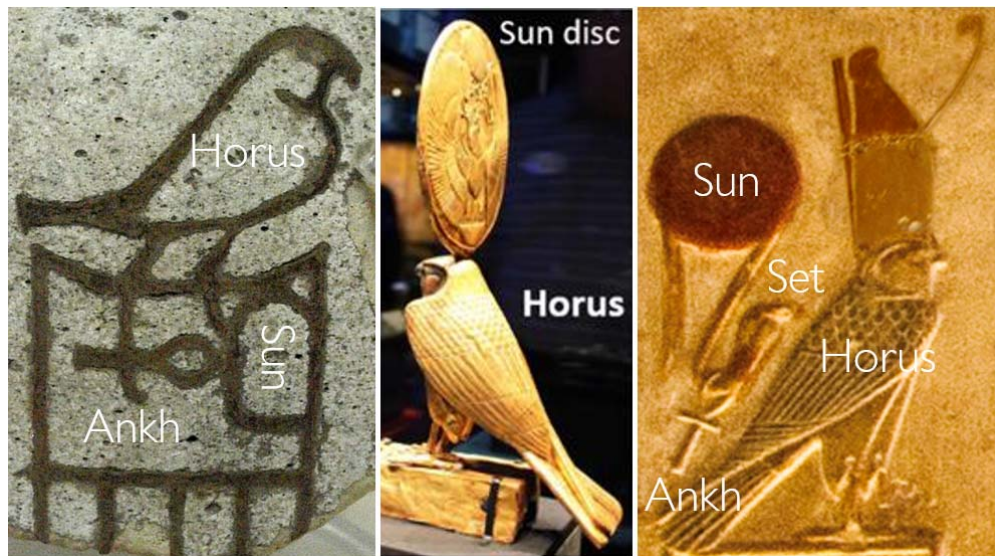
4. Historical: Egyptians (3500BC) to Descartes (1644)

“Witness to this also that the wisest of the Greeks: Solon, Thales, Plato, Eudoxus, Pythagoras, who came to Egypt and consorted with the priests; and in this number some would include Lycurgus also. Exodus, they say, received instruction from Chonuphis of Memphis, Solon from Sonchis of Sais, and Pythagoras from Oenuphis of Heliopolis. Pythagoras, as it seems, was greatly admired, and he also greatly admired the Egyptian priests, and, copying their symbolism and occult teachings, incorporated his doctrines and enigmas.”

— Plutarch (100AD), *On Isis and Osiris* (pgs. 25-27)

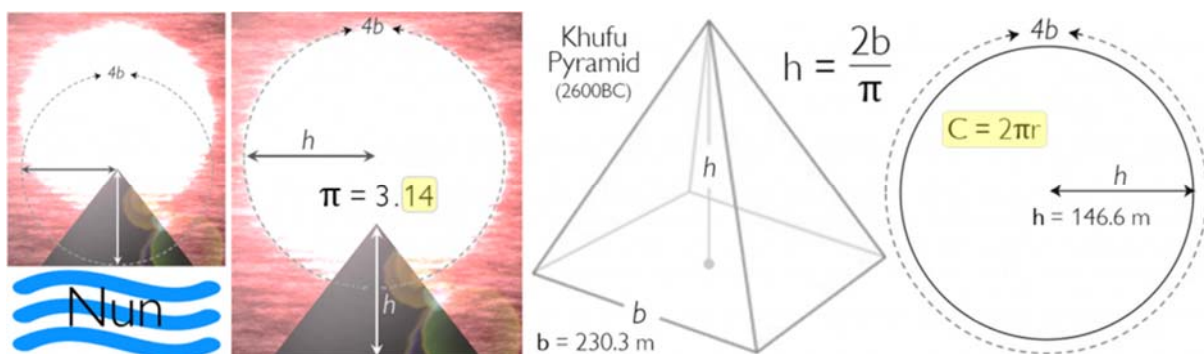
Chapter point: Summarize the Egyptians to Descartes view of human movement [length: 10-pgs]

In 3500BC, a falcon-like sun god named ‘Horus’ had become popular as the supreme god of Egypt. Egyptian kings and pharaohs, in this period, e.g. Hedju-Hor (c.3240BC), whose name means ‘maces of Horus’, Ny-Hor (c.3200BC), Hat-Hor (c.3200BC), Hor-Aha (3125BC), ‘Horus Bird King’ (2900BC), had all named themselves after Horus, as half of their royal name. The following are some early depictions of how the Egyptians perceived Horus:



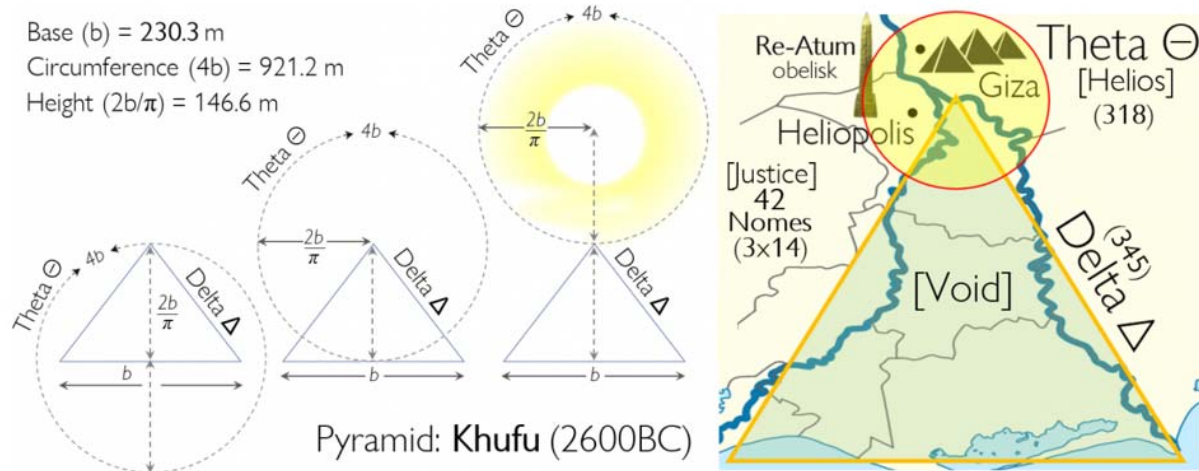
Little is known about Horus, other than the fact that he was the god, conceptualized as the sun, who, for twelve-hours, or Horus’s (the word hour is named after Horus), of each day, shined, but at the 13th hour, aka the ‘bia (βία) (NE:13) = *violence* hour’, when the sun went dark, engaged into battle with the god Set, at sun-set (the word sunset is named after Set), each night, a battle of darkness that lasted twelve-hours.

In 2600BC, Horus was subsumed into the Heliopolis god family, called the Ennead, wherein he became the great great grandson of the god Ra-Atum, Atum conceptualized as the pyramid, Ra conceptualized as the sun. In this new Heliopolis cosmology, the Khufu pyramid was built, shown below, the sun defined as Horus at birth and Ra at midday, depending:



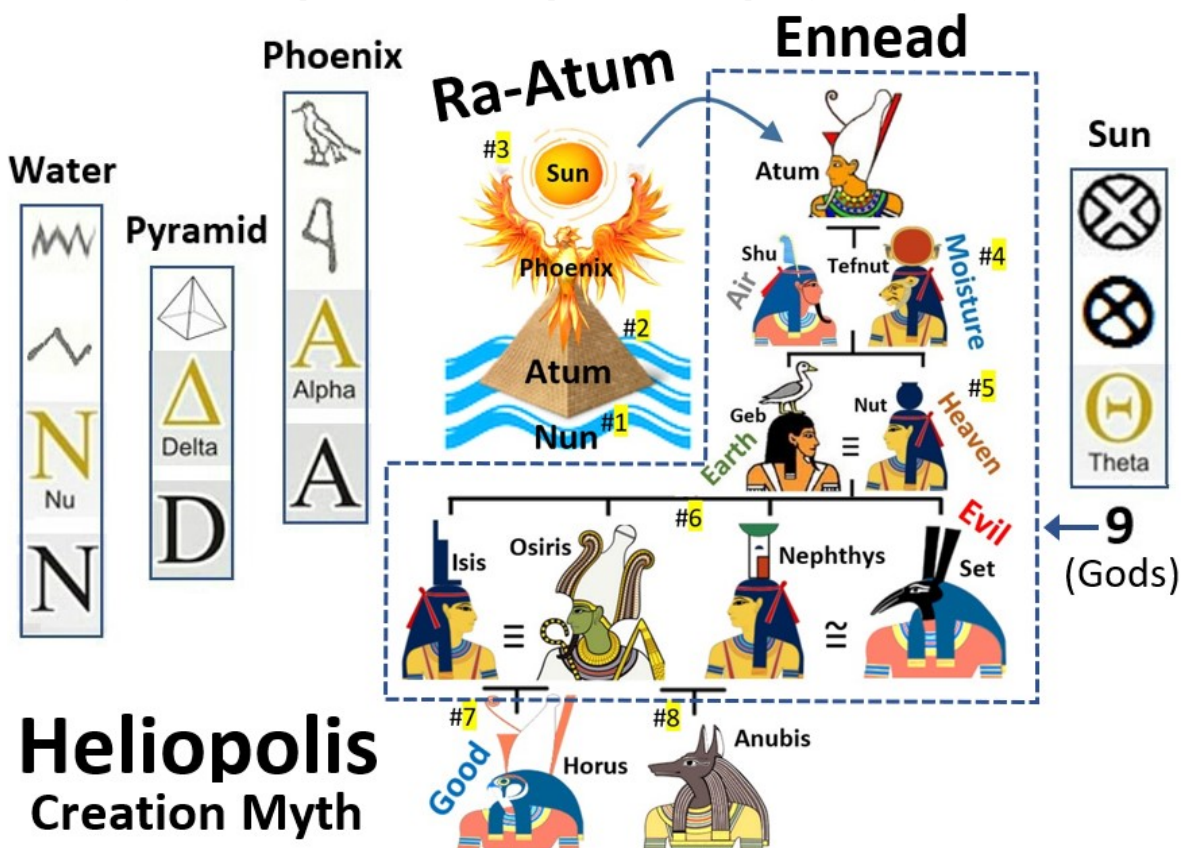
The height of the pyramid was set equal to twice the base (2b) length divided by pi (3.14). The logic of this being that the circumference of the sun, born out of the tip of the pyramid, had a circumference of four times

the base (4b). The geography of this is shown below, in respect to the Nile Delta, or letter Delta Δ , a triangle-shaped region, and the birth of the sun, aka letter Theta Θ , out of the tip of a pyramid:⁶

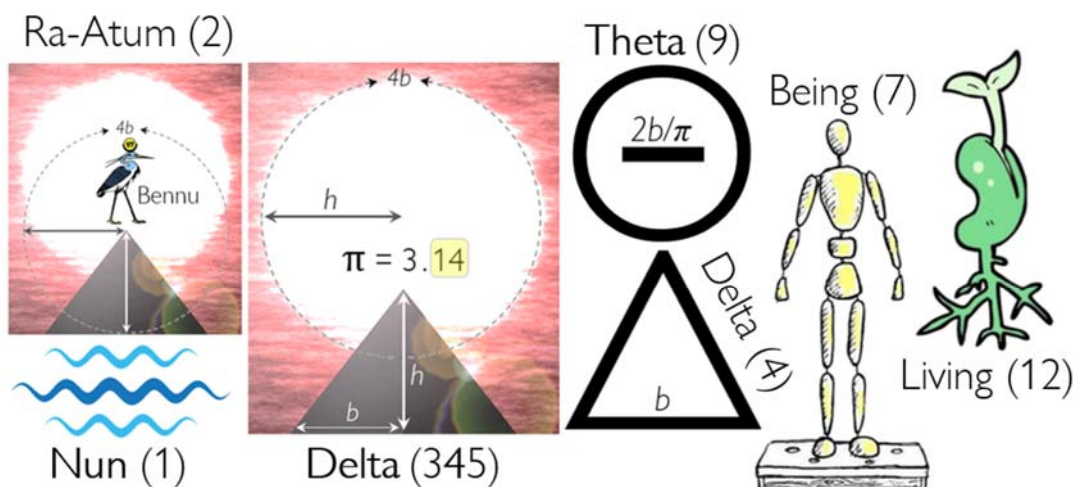


At some point, here, before, or after, 4b was set equal to '888', and defined as the origin or source of 'bio' or what we now refer to as *life*.

The following diagram shows the location of Horus, in the new Heliopolis creation myth, separated by four generations, in respect to Ra, wherein Ra, or the 'Atum-Ra' syncretism god, becomes the great great grandfather of Horus; wherein we should note that Horus, Ra, and Atum originally were distinct gods in their own right, in different periods and locations, prior to this Heliopolis god family syncretism:



At this point, the entire number system and alphabet were anchored into a so-called 'delta-theta cosmology', as shown below, wherein 1 is the nun, 2 is Ra-Atum or two gods joined as one, and delta, as 345, in isopsephy value, 7 is being, 9 is theta or the Ennead god family, generated out of the theta, and 12 or 'bi' in Greek, translates as alive, or is what makes a being 'living', so to say:



0, **1**, 2, **3**, **4**, **5**, 6, 7, 8, **9**, 10, 11, **12**, 13, 14, 15, 16, 17, 18,

Next, we know that Egypt divided itself into 42 ‘nomes’ or states, wherein each nome had its own ‘nome god’, considered to be one of the judges present, in the Judgment Hall of Osiris, a 42-number themed god, at the weighing of the soul of each person in the afterlife. Secondly, we know that 3 times 14 equals 42.

Thirdly, we know that there are 14 days in one waxing or waning period of the moon, whose full cycle is 28 days.

Fourth, we know that in the Roman recension, this Egyptian myth was rescripted to the effect that there were 42 generations between Abraham (aka Ra) and Jesus (aka Horus). Fifth, we know that these 42 Abraham to Jesus generations were divided into 3 sets of 14 generations, aka a pi (3.14) themed divide. Sixth, we know the first divide, goes from Abraham (Ra) to David, whose name means ‘14’ in gematria value.

Seventh, we know that the isopsephy value of the name Jesus, in Greek: Ἰησοῦς, is ‘888’. Eighth, we know that 888 divided by pi (3.14) is ‘282’, which is the isopsephy value of the word ‘bio’, in Greek: βίος. Ninth, we know that we know that once each 28-day lunar cycle, wherein a female ovulates, 2 people have to have sex to make a baby, or new ‘bio-form’ as the Greeks referred to things.

Hence, in sum, 888, the number of Horus or Jesus, divided by pi (3.14), yields the number 282, which can be deciphered as two people having sex on the full moon and making new ‘life’ or new *bio*, as the decoded cipher indicates.

4.1 | Egypt: Fire + soul = heart → motion (2600BC)

In the Heliopolis model, the bennu bird, aka ‘phoenix’ (Herodotus, 445BC), pictured adjacent, was the bird said to carry the new born ‘sun’, balanced on its head, into the sky.

The bennu bird was also defined as the ‘soul’ of the sun god Ra.¹ The bennu bird was said to have its nest on what was called the ‘benben stone’, conceptualized as a golden pyramid-shaped figure. Egyptians placed these benben stones at the tip of each pyramid they built, so that each pharaoh buried in the pyramid could be reborn like the bennu (or phoenix).²

The earliest texts describing this bennu model appeared in the pyramid texts of pharaoh Unas (2315BC), ninth and last ruler of the Fifth Dynasty of Egypt. The following, which is carved on the walls of the tomb of Unas, inside pyramid, describe this process:

“To say: O Atum-Khepri [Ra], when thou didst mount as a hill [pyramid mound]; and didst **shine as** bnw [bennu] of the ben [benben] in the temple of the ‘phoenix’ in Heliopolis; and didst spew out as Shu, and did spit out as Tefnut; (then) thou didst put thine arms about them, as the arm(s) of a ka [spirit], that thy ka might be in them. Atum, so put thine arms about Unas [pharaoh]; about this temple, about this pyramid, as the arm (s) of a ka; that the ka of Unas may be in it, enduring for ever and ever.”

— Unas Scribe (2315BC), *Unas Pyramid Text* (§:Utterance 600)



The Egyptians built his pyramid so that the soul of Unas, in the ‘hereafter’, could be reborn like the soul of Ra. In utterance 600, the priests ask that soul or ‘ba’ of Unas be reborn out of the tip of his pyramid like the bennu bird, or phoenix, and fly into the sky to be embraced by the ‘ka’ or spiritual arms of the sun god Ra.

In 1500BC, each Egyptian, not just the pharaoh, was said to have a ‘ba’ or soul version of the bennu bird, like a miniature phoenix or sun soul, which resided inside of their heart, powering their movements, as the Egyptians believed.³ A visual of this ‘ba’ or human sun soul is shown adjacent, showing a woman kneeling by a fire, with a heart-shaped fire symbol in the region of her heart. Shortly thereafter, this Egyptian model of a fire-like soul residing in the heart of each person, had spread to the rest of the world, via cultural transmission of ideas

In 600 to 400BC, Greek philosophers, including: Thales, Anaximander, Pythagoras, Empedocles, Democritus, and Plato, all traveled to Egypt to study their philosophy, science, and astro-theology-based religion. The core of the Egyptian cosmology what the Greeks called *theo* meaning sun god. The Egyptian model, accordingly, was sun or heat-centric, with heat defined explicitly as a god. The schools founded by Thales and Pythagoras, and or their works and followers, became the mental teachers of Empedocles.⁴

4.2 | Empedocles: Birth and death do not exist! (445BC)

In 445BC, Empedocles, in his poems *On Nature* and *On Purifications*, introduced a new and revolutionary model, according to which the universe was defined by four elements, namely: water, earth, fire, and air, and two forces, namely: an attractive force called *philia* (φιλία) (NE:551), secret name: ‘will’ (βούλημα) (NE:551), and a repulsive principle named *neikos* (νείκος) (NE:355), secret name: unknown, but generally translated as ‘strife’ (or repulsion), meaning causing the elements to separate. This was a four element two force model, as shown below:



where A is the Empedoclean attractive force and R is the Empedoclean repulsive force. The following is a basic model of how Empedocles thought of a rock, human, and a log of wood. The log of wood is shown in a dry state in the process of catching on fire, and releasing its fire elements, which tend to each other, as ‘like attracts like’ was the main law of affinity in this period, moving or attracting upwards to the fires in the stars.

None of these six entities, forces or elements, to clarify, was associated with the attribute of ‘life’ or ‘death’. Nor did Empedocles associate combinations of these six entities with any special so-called ‘life state’. He did not say that the ‘human’, as presumed to be exception or special thing in the

universe, had a special life or living state. Rather, each thing, rock, human, or log existed, for a period of time, each with different properties, owing to the coming together of the four elements, ceasing to exist at a later time, when, presumably, the forces of repulsion or strife involved overtook the forces of attraction or affinity involved in the union or bound state of the elemental thing in question.

Empedocles, in fact, used his two force four element model to rebut the idea that birth or death exists. Only a handful of the Empedoclean view are extant. The following is his most-cited fragment:

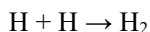
“**There is neither birth nor death** for any mortal, but only a combination and separation of that which was combined, and this is what amongst laymen they call ‘birth’ and ‘death’. Only infants or short-sighted persons imagine any thing is ‘born’ which did not exist before, or that any thing can ‘die’ or parish totally.”

— Empedocles (c.445BC), Fragment I21 / DK8 + Fragment I23 / DK11

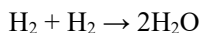
This famous quote was employed Baron Holbach, in his *System of Nature*, and by Alfred Lotka, in his *Elements of Physical Biology*. The basis Empedoclean view is diagrammed adjacent.



Firstly, science is in uniform agreement that when two H+ species react, to form something new, e.g. two hydrogen atoms reacting to form a dihydrogen atom:

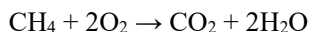


that there is no birth nor death involved. Likewise, when an H species reacts with an O species to form an HO species, e.g. when two H₂ molecules react with an O₂ molecule to form two water molecules H₂O:

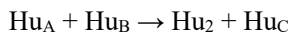


there is no birth nor death involved. The right side of the arrow, to clarify, are the so-called products, being what we might have formerly, in our ignorant days, anthropomorphically refer to as 'birth'. The left side of the arrow, the so-called reactants, being what we formerly anthropomorphized as being 'death'.

Similarly, when a CH species, such as methane CH₄, reacts with an O species, such as oxygen O₂, to form carbon dioxide gas CO₂ and water H₂O:



there is, likewise, no birth nor death involved. Yet, when we jump up a few rows, of elemental complexity, to the scenario, wherein two CHNOPS+20E species react, say to form a couple, i.e. dihumanide species, and a new child:



Then, all of sudden, there is, presumably, the magical property of 'birth', 'life', and 'death' involved? Not so, says Empedocles!

These are but childish or rather ignorant terms for what correctly, in the discerning universal view, is but the 'combination and separation of that which was combined'. He explains this thusly:

"When the elements have been 'mingled' in the fashion of a man, and come to the light of day, or in the fashion of the race of wild beasts or plants or birds, then men say that these 'come into being', and when they are 'separated', they call that in common parlance, death let not the error prevail over the mind that there is any other source of all the perishable creatures that appear in countless numbers."

— Empedocles (c.450BC), *Source*; cited by Alfred Lotka (1925) in *Elements of Physical Biology* (pg. 185)

Said another way:

"There is no coming into being of aught that perishes, nor any end for it but only mingling, and separation of what has been mingled."

— Empedocles (c.450BC), *Source*; cited by Alfred Lotka (1925) in *Elements of Physical Biology* (pg. 246)

This same logic is found in the works of Leucippus, albeit in the form of atomic theory:⁵

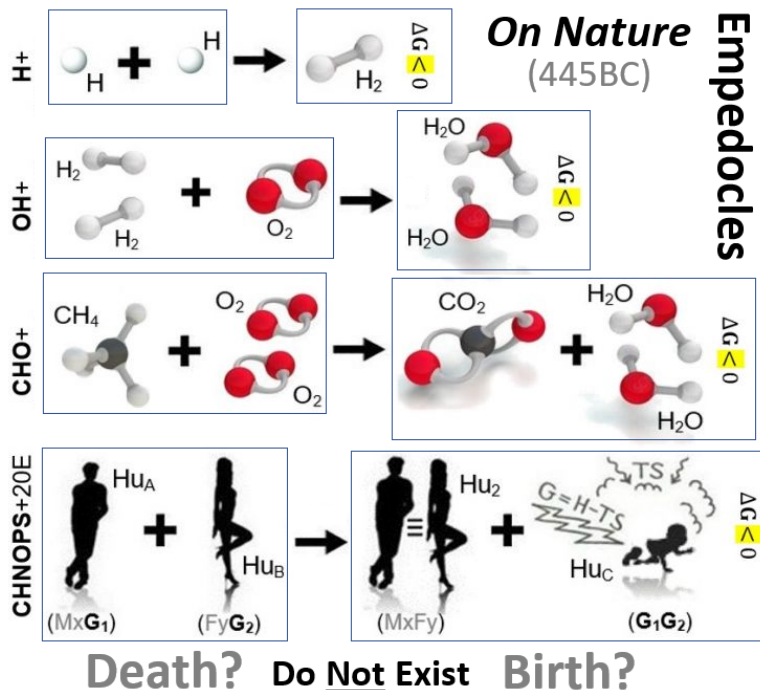
"Birth is the aggregation of atoms, death is their disaggregation or destruction of atomic composite, without anything being derived from nothing and nothing going into anything in the process."

— Leucippus (c.460BC), *Publication*

This same general birth and death do not exist view, of note, is sometimes attributed to Anaxagoras. Only fragments of these three authors, however, are extant, hence we can only draw the general conclusion that this view was being advanced in this period, but that the time was not yet ripe for its fruit. Now, however, the intellectual trees are in full bloom, and the apples are tasty!

4.3 | Aristotle: Heat is the condition of life (350BC)

In 360BC, Plato, upon his return from his studies in Egypt to Greece, became the teacher of Aristotle. Aristotle, following his studies under Plato, went on to subsume, process, and summarize the thoughts of all



the Greek philosophers before him, in an encyclopedic manner. The following is a condensed summary of how Aristotle thought about fire in respect to life:

“Aristotle was of the opinion that the primary condition of life is the **‘natural fire’ which resides in the heart of each living creature**. This fire may be extinguished by contrary forces, or smothered by excess heat. Respiration is the process of cooling, which prevents the smothering of the vital fire.”

— Alexander Grant (1877), *Aristotle, Volume 13* (pg. 151)

Aristotle, barring prolonged digression, essentially absorbed the idea that there was not necessarily a fiery bird in each person’s heart, as the Egyptians believed, but rather a that combination of breathing, which ‘brought in nutrients’, similar to the way in which bellows can be used to stoke a wood fire and increase its flame, and blood movements, which interacted with this breathing process, kept some sort of fire going in the heart, which heated the body. The following is a taste of his logic:

“Life must be simultaneous with the maintenance of heat, and what we call ‘death’ is its destruction. Every living thing has a soul, and it, as we have said, cannot exist without the presence of natural heat. An animal is defined by the procession of ‘sensitive soul’, which must in sanguineous animals, be in the heart, and, in bloodless one, in the corresponding parts of their body. But in all animals all the members of the whole body possess some connate natural heat, and hence when ‘alive’, they are observed to be warm, but when ‘dead’ and deprived of life, they are the opposite. The **soul is set aglow with fire** in the heart.”

— Aristotle (350BC), “On Youth, Old Age, Life and Death, and Respiration”

Beyond this, Aristotle’s model of motion becomes more complex. In his *Generation of Animals*, e.g., he argues that animals and their body parts are generated according to four ‘causes’, each cause meaning or intended for the sake of something. His fourth cause, his so-called ‘moving cause’, explains ‘that from which the source of movement comes’.

Aristotle’s soul in the heart set aglow with fire model of life, of note, held sway in the minds of people for the next two-thousand years. It would not be until the rise of the enlightenment in France, where people like Jean Fernel (1548) and Rene Descartes (1644) began to question the Aristotle model. Descartes in fact, still believed in the fire in the heart model.

4.4 | Lucretius: Sunlight + atoms → animals (60BC)

In 60BC, Lucretius, in his *On the Nature of Things*, building on the atomic theory views Epicurus (300BC), stated the following:

“By means of the sun, by means of the lights, all animate things are evermore conceived and spring up.”

— Lucretius (60BC), *On the Nature of Things* (§1.1-5)

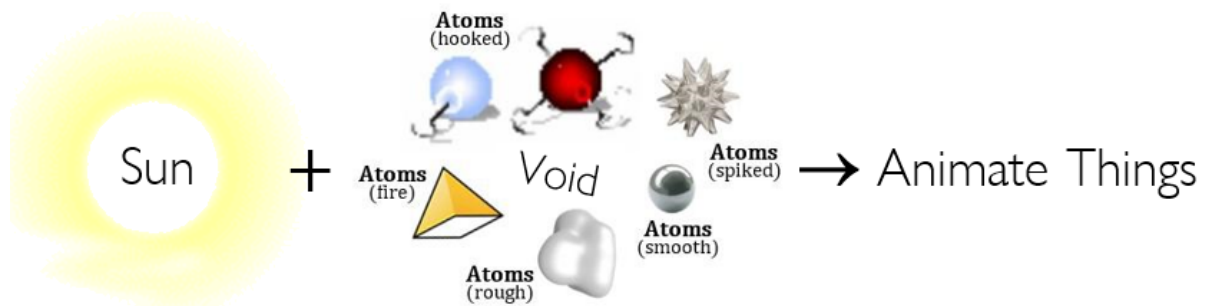
This is what is called the basic translation. The process of rendering the original meaning of the Latin text of Lucretius into the correct and accurate meaning in English, is no simple task. The ingrained personal biases of the translator will, more often than not, unknowingly render ‘key terms’ into a form that is not in exact alignment with the original word or term meaning, as Lucretius had it in his mind. Nor is there full consensus of some of the original key Latin words, particularly when it comes to the key terms: life, mind, and movement, which often get convoluted by the Latin term *animi*, which generally renders as ‘mind’, and *anima*, which renders into a number of meanings related to movement. The best we can do is compare multiple translations so to arrive at the closest to original meaning. Jefferson, in this direction, e.g., owned at least five Latin editions of Lucretius’ *On the Nature of Things*, as well as translations into other languages, so to get the proper original meaning.

The opening paragraph of Lucretius’ poem, shown below in four different translations, was dedicated to Venus, the goddess responsible for ‘cramming life into all families of living things’ (Johnston, 2010), and her son Aeneas, the legendary father of the Roman people:

#	Lucretius (60BC)	Google (66AE)	Leonard (1916)	Johnston (2010)
1-5	Aeneadum genetrix, hominum divomque voluptas, alma Venus, caeli subter labentia signa, quae mare navigerum, quae terras frugiferentis, concelebras, per te	Of Aeneas' mother of the gods, men's delight of gods and men, dear Venus, gliding under the signs of heaven, which is the sea, who fills the fruitful lands, lands, because of the sun by	Mother of Rome, delight of gods and men, dear Venus that beneath the gliding stars, makest to teem the many-voyaged main, and fruitful lands- for all of living things , through thee alone are	Mother of Aeneas’ sons, joy of men and gods, nourishing Venus, who beneath the stars, that glide across the sky, crams full of life , ship- bearing seas and fruitful lands—through you; are conceived all families of

quoniam genus omne animantum concipitur visitque exortum lumina solis	means of the lights of thee, that all animate things [animals] are evermore conceived it sprang up,	evermore conceived; through thee are risen to visit the great sun .	living things , which rise up to gaze upon the splendor; of sunlight ,
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The following is a basic visual of the Lucretian model, according to which atoms are evermore conceived and spring up via the combine action of sun and light acting on atoms moving in a void:



The first issue noticed is that originally Lucretius tells us that all animals (*animantum*) were derived by a combination of the light of the sun (*lumina solis*) and the fruits of the land (*terras frugiferentis*) and seas. Conversely, the latter two so-called ‘modern translations’ restate the passage to the effect that ‘living things’ are made by Venus so to ‘visit the great sun’ (Leonard, 1916) or to ‘gaze upon the splendor of the sunlight’ (Johnston, 2010)? In other words, sun, heat, and light have been expunged from the mechanism of the formation of animate things, becoming nothing but pretty things to look at *after* humans have been created by a god? In other words, instead of jettisoning either ‘god’ or ‘life’ from the picture, as unneeded words, modern translators, via confused latent biases, have jettisoned the ‘sun’ from the picture as an unneeded thing in the formation of animals and humans?

Secondly, when the poem was penned, it was implicitly assumed, culturally, by lay people, that Roman citizens, received ‘life’ or specifically the life Venus through Romulus and Remus, the two sons of Aeneas, and fathers to all Roman citizens. This model of receiving ‘life’ from the goddess Venus, as we will discuss shortly, is coded into the phrase the ‘*vis* of Venus’ meaning: *force* of Venus. This is the etymological root of the term *vita* meaning ‘life’ in Latin, such as found in the term *vitalism*, meaning belief in a special life force operating in humans.

Thirdly, in respect to translation ambiguity, we that word *animantum*, which in Latin generally means ‘class of animals’, has been reformulated, via millennia-long cultural language transformations, into the term ‘living things’ (Leonard, 1916; Johnston, 2010). In other words, what might have formerly meant an atomic thing moved by the fuel of breath kindling a flame or fire in one’s heart, thus heating the body, as Aristotle argued, became rendered as a *living* thing? Hence, the switch from a real term to a metaphysical or non-real term. Here, of course, we are aware that Aristotle’s use of the term *anima*, which he associated with different types of ‘soul’, fueled by breath, making flame and heat in the heart, depending on body, plant or animal, was clearly different than Lucretius’s basically atheistic atomic theory of animation. Yet what exactly Lucretius meant by the term ‘animantum’ and *anima* is not precisely understood?

4.5 | Fernel: Dead pointing magnet stones? (1548)

In 1542, Jean Fernel, a French physician, astronomer, mathematician, and philosopher, in his *Universal Medicine*, devoted the first seven chapters to the subject of ‘physiology’, a term he coined, describing the different parts of the body and their uses, various elements and temperaments, spirits and internal heat, functions and moods, and finally generation. In his chapter four: ‘The Spirits and the Innate Heat’ (*De Spiritibus et Innato Calido*) and chapter five: ‘The Faculties of the Soul’ (*De Anima Facultatibus*), building on Aristotle and Avicenna, expand on the *fire-in-heart* model, as the principle of life, albeit with a relocation of the *life principle* to the liver and the brain.

To get our feet wet, with a bit of Egyptian to Greek to Latin etymological decoding, the following is the title of Fernel’s section 4.1, shown in English and Latin (translator: John Forrester):

“A *heat* resides in us and all **living** things, and is divine.”

[*Calorum* quondam in nobis cunctisque **viuentibus** inesse, eumque diuinum.]

— Jean Fernel (1542), *Universal Medicine: Physiology* (4.1)

Here we see the Latin word ‘viuentibus’ translated in English as ‘living’. What is the justification for this? What do the letters V, I, U, E, N, T, I, B, U, S have to do with a person being alive or a living thing?

The adjacent screen shot from the 2005 film *V for Vendetta*, which shows the Latin phrase: ‘Vi Veri Veniversum Vivus Vici’ engraved on the mirror, will help to clarify things for us. The phrase itself comes from the c.1520 Latin (or German) writings of Johann Faust, the famous semi-legendary character who was said to have sold his soul to the devil in exchange for all the world’s knowledge.

The five-Vs Latin phrase is translated in the film as: ‘By the power [Vi] of truth, I, while living [Vivus], have conquered the universe!’. What do the two letters V and I have to do with: force, strength, power or living / alive?

The answer is that the joint term ‘Vi’, is the transliterate of the Greek term ‘βι’, which has a pebble value of 12. This, in turn, traces back to earlier Egyptian astrology cipher about how the moon grows into full power, strength, or force once every 12-months and that women become fertile, i.e. ovulate, once every month, therein becoming full in reproductive power, strength, and force and sexuality.

We know this to be true, because the Latin term *vis*, famously employed in Gottfried Leibniz’s 1686 *Vis viva* (living **force**) term, derives from the Greek term ις (is), which means ‘force, strength’ in Greek, and has a pebble value of 210. The Greek word for fertile, namely: πιον (pion), also has a pebble value or isopsephy value of 210. This meant, to the ancient Greeks, that the secret name of IS (ις), aka force or strength, is the fertility (πιον).

Fernel tells us here that ‘heat is divine’, i.e. heat is a god or the work or product of a god. We can compare this, historically, to the Egyptian pharaoh Akhenaten (1340BC), the first proto-atheist of history, saying that the rays of the sun were the fingers of the god Aten. Heat, in modern terms, we know is not divine, and the laws of thermodynamics were not fashioned by a god.

Fernel, to continue, says that a spirit, presumably this being some derivative of the *vis* of Venus, is given to all ‘living things’, and is associated with vital heat, i.e. *vatae calorem* (Latin), which means ‘heat of Venus’ in modern translation:

“A spirit given to all **living things** is associated with the **vital heat**.”

[Spiritus quondam cunctis datum **viuentibus**, qui **vitae calorem**.]

— Jean Fernel (1542), *Universal Medicine: Physiology* (4.2)

We can trace this spirit given to all living things statement back to the pyramid texts of Unas and how the Egyptians believed that the ba (soul or bennu bird) of Ra (sun god) embraced the dead Unas in the hereafter with his ka (spiritual arms). Lastly, Fernel attempts to address the question of what life is exactly:

“What the vital faculty provides and imparts to the rest, in what it resides, what status it reaches, and **what life is?**”

[Quid vitalis facultas caeteris praestet et impertait, in quibus insit, quo accedat qrdine, **quid vita?**]

— Jean Fernel (1542), *Universal Medicine: Physiology* (5.16)

Quid vita? What indeed is life or VITA? Is life or *vita* simply something associated with vital heat or *vatae calorem*? In English, is *life* simply a thing principled in *life heat*?

Here, not to discredit Fernel, we see him grappling with the so-called ‘circular life definition issue’. In other words, as illustrated adjacent, Fernel using the Latin term ‘vit’ in the BOTH the term and in the definition of the term. Fernel, of course, is trying to correct Aristotle, who seems to have invented the circular life definition model.

This confused circular definition technique is found in all modern dictionaries and encyclopedias, in respect to the definition of life. All one has to do is check the latest edition of Wikipedia, Britannica, or



12 pebbles [isopsephy] → βι [Greek] → Vi [Latin]
Viuentibus [Latin] → Living [English]



Merriam-Webster. To exemplify, when one looks up the word ‘life’ in the 2000 edition of Merriam-Webster Collegiate Dictionary, one finds:

Life: The quality that distinguishes a *vital* and functioning being from a dead body.

Vital: Existing as a manifestation of *life*.

Hence, we run in a circle. The so-called *vis* of *vita*, which is the root of the Latin term *vital*, to clarify, as we will come to learn, means the force of the goddess Venus. In other words, anyone who attempts to define what the ‘force of Venus’ is, non-mythologically, will always produce a circular and or baseless definition.

To give a further taste, Fernal, in his *Quid Vita* section, or ‘What Life Is?’ chapter section, opens to the following telling statement:

“The widely held view has been disseminated on everyone’s lips, even among laypeople, that plants are alive, so are animals, so are the gods; the gods are so by mental activity alone, animals by the prompting of their senses, plants by the direction of nature.”

— Jean Fernal (1542), *Universal Medicine: Physiology* (5.16)

Fernal here outlines what seems to be three types of alive-ness:

- God [alive]: by mental activity.
- Animals [alive]: by sensory prompting.
- Plants [alive]: by direction of nature.

As we see, in order to attempt to salvage the term ‘alive’, we are beginning to digress into conceptual quagmire and logical nonsense.

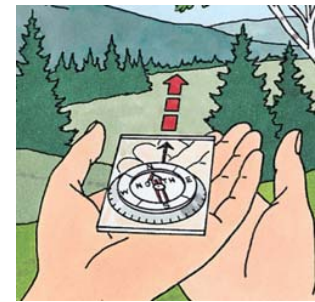
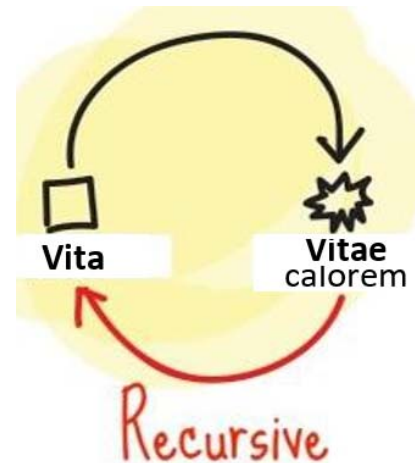
In 1548, Fernal, in his *On the Hidden Causes of Things*, probes the question of whether or not the magnet-stone or lodestone, which points, in a seemingly animate way, towards the pole star, is a living thing or a dead thing:

“The stone selenite holds the image of the moon even to her very phases. The **magnet-stone points to the pole star**. These are *dead things*, says Brutus, do living things likewise draw influences from the sky. Did not Aristotle well and truly say, and leave it written for all posterity, that: **‘Heat is the condition of life’?**”

— Jean Fernal (1548), *On the Hidden Causes of Things*

Fernal here asks: is the magnet alive? In modern terms, when we move a compass around, it points out the direction of ‘north’ for us, is there some ‘living’ principle at work in the magnetic needle?

In this context, we note that in Thales, in 570BC, after studying in Egypt, stated that the lodestone has a soul or anima, and thus is ‘alive’, in some sense, per reason that it is able to move the iron. We no longer, the world over, however, believe that the compass needle is alive or has a soul. Possibly, centuries or millennia from now, we will no longer, the world over, believe that humans are alive or have souls?



4.6 | Descartes: Principle of motion (1644)

In 1630s, Rene Descartes, building on the matter and motion theories of his mentor Isaac Beeckman, began to directly attack Aristotle’s theories of motion. Descartes, in respect to the difference between a human and the fountain automatons being built in the French gardens of his day, said the following:

“These functions [digestion, beating of heart, growth, respiration, waking, sleeping, etc.] follow in this [**human**] machine simply from the disposition of the organs as wholly naturally as the movements of a clock or other **automaton** follow from the disposition of its counterweights and wheels. As far as these functions are concerned, it is not necessary to conceive any other ‘vegetative soul’ or ‘sensitive soul’, nor any other **principle of motion** or ‘of life’, than the blood and the spirits agitated by the **fire which burns continually in the heart**, and which is in no wise different from the fires which exist in inanimate bodies.”

— Rene Descartes (1633), *Treatise on Man*

Descartes here, in short, says directly that the very same ‘fire’ which exists in inanimate bodies, is the same as that which exists in and presumably animates human bodies, as soul-filled automatons, as he defines people.



Next, Descartes, in his *Principles of Philosophy*, conjectured that motion, which he says is a ‘state of a moving body’, might very-well be defined as a quantity that is constant in the universe, conceptualized as a whole. Specifically:

“**Motion**, indeed, is only a **state of the moving body**; but it has a certain definite ‘quantity’, and it is readily conceived that this quantity may be **constant in the universe as a whole**, while varying in any given part. We must reckon the ‘quantity of motion’ in two pieces of matter as equal if one moves twice as fast as the other, and this in turn is twice as big as the first; again, if the motion of one piece of matter is retarded, we must assume an equal acceleration of some other body of the same size.”

— Rene Descartes (1644), *Principles of Philosophy* (§:36)

The so-called ‘quantity of motion’ may be constant in the universe as a whole! This is a forerunner to what would later become the conservation of energy and the first law of thermodynamics. If this ‘quantity of motion’ is a universal constant, then this *motion quantity* cannot live nor die, but rather is a transformable type of quantity. Descartes does not say this directly, the principle is adumbrated in his various treatises.

Descartes, in respect to Aristotle’s model, kept his logic of a fire burning in the heart, but moved the location of the ‘soul’, or moving principle of a person, away from the heart, and put it into the pineal gland of the brain. While subtle in step, this was grand in its implications.

While Descartes did not directly address the alive vs dead issue, like Fernel did in respect to magnets, his advocacy of matter and motion theory, was a step towards abioism. In other words, if motion is only but a ‘state of a moving body’, what sense does it make to attempt to categorize a special state or type of ‘living motion’, as distinct from all other types of motion in the universe?

Synopsis: In terms of a universe defined by the model of atoms or elements and forces, neither life, death, birth, nor alive exist.

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5. Historical: Meslier (1729) to Holbach (1770)

“This so-called ‘other life’ is an illusion and pure fiction of the human mind.”
— Jean Meslier (1729), *Testament* (pg. 442)

Chapter point: Summarize the rise of abioism, as seen in the works of Jean Meslier, Denis Diderot, and Baron Holbach [length: 7-pgs]

In 1729, Jean Meslier, a French abbe overtly, but closet atheist subvertly, penned four duplicate copies of a hand written tome entitled *Testament*, wherein he denies the existence of the soul, classifies ‘spirit’ as non-existent (§70), denies *afterlife* (§72), rebuts the Cicero scattered letters analogy (§83), dismissed the notion of ‘free will’, denounces all belief in and associated with god, and all religions, Christianity in particular, and in which, in the latter portions of which (§65+) he expounds on a matter, force, motion, and being theory upgrade replacement for god belief; therein touching on things such as the nebular hypothesis (§71), among other interesting ground-breaking views. Before one can dismiss belief in ‘life’, one has to first dismiss belief in afterlife. This is what Meslier does. He also establishes an outline of matter and motion theory, that would go on to fuel the ideas of Denis Diderot and Baron Holbach.

5.1 | Meslier (1729) vs Fenelon (1712)

In 1712, Francois Fenelon, in his *Demonstration of the Existence of God*, said that god exists per reason that children will laugh if you tell them that stones feel pleasure, pain, joy, or sadness:

“**Matter cannot think or feel** and the people, even children, cannot be persuaded otherwise. People and children are far from believing that matter is capable of thinking and feeling in anyway, so that they could not help laughing if you told them that a **stone**, a piece of wood, a table, or their dolls felt pain or pleasure and joy or sadness.”

— Francois Fenelon (1712), *Demonstration of the Existence of God*

Fenelon also discussed ‘living atoms’, in the context of atomic theory and theology.

In 1729, Jean Meslier, in his *Testament*, the book that basically launched French atheism, refuted Fenelon as follows:

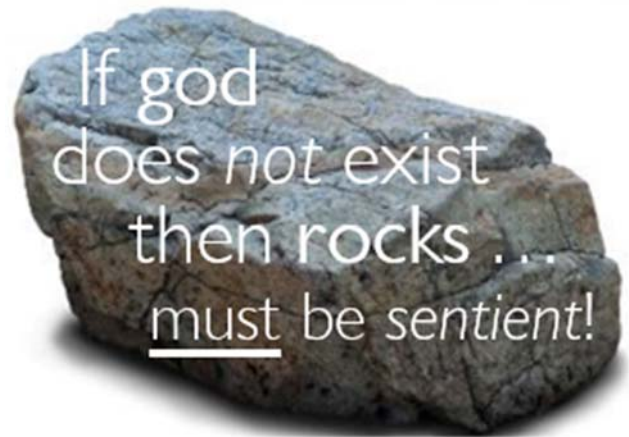
“Now that is a lovely argument for a person of such rank, merit, and erudition! People and even children could really have a reason to laugh and make fun of those who to amuse themselves would like to make them believe that **stones**, tables, boards, furniture, or dolls had knowledge and sentiment because they know, indeed, that these sorts of things cannot know or feel anything. But, their laughter would not come, as Fenelon would like to make them understand, from the fact that these kinds of things are only matter or made of matter, but because they would see that these things are not ‘animate’ and do not have *life* like animals and consequently they cannot think or feel.”

— Jean Meslier (1729), *Testament*

Meslier here is boldly connecting *life, feelings*, in respect to ‘matter’, as being a function of animation.

In 1754, Denis Diderot, in his *Thoughts on the Interpretation of Nature*, having absorbed all the ideas of Meslier’s *Testament*, renewed the call for a purely experimental and practical science, as opposed to the Cartesian type of theoretical reasoning, amid which he skirmished with problems such as: living, organic nature of matter, origin of life, evolution. At the end of this essay, Diderot listed fifteen points or questions, which summarized his perplexities in the face of the mysteries of nature, e.g. living matter and dead matter.

Diderot then left these question sit in the back of his mind, for the next fifteen-years. During this period, Diderot busied himself working as the main editor of his famous *Encyclopedia*, which by 1772 totaled 28-volumes, 20M words, in 72,000 articles, 7,000-articles of which he penned himself. The first seven volumes were co-edited by Jean Alembert, a mathematician, general scientist, with skeptical views about or not god existed.



5.2 | Holbach Hotel (1759)

In 1759, Baron Holbach, having recently returned from Leyden University, educated in chemistry, physics, and mineralogy, having obtained a law degree, and having educated himself in all the philosophers of the of the world, present and past, while amassing a 3,000-book personal library, initiated, at his Paris mansion, his famous Holbach salon, aka the ‘Philosopher’s Hotel’ as it came to be known.³ Here, over the next two decades, all the leading philosophers of the world, from: Albert to Diderot to Franklin to Hume to Rousseau, began to meet for weekly dinner dialogues.

Holbach was the intellectual ring-leader and Diderot was the argument or debate provoker. During these dinners, Holbach brought out query note cards, each with a philosophical point, argument, or statement on them, which were debated about and honed, to the point of chiseled correct intellectual accuracy.

In these years, sometime between Diderot’s *Thoughts on the Interpretation of Nature* (1654) and *Alembert’s Dream* (1769), the question of how life and arise from nonlife, in the context of explicit atheism and monistic materialism were prime topics for heated debated.

In 1749 to 1757, Jean Rousseau was in attendance at these meetings. He later described his experience at the Holbach salon discussions as follows:

“The [Holbach] philosophers had nothing to teach me. I found them all alike. Proud, sort of, dogmatic. Braggarts in attack, their weaklings in defense. Weigh their arguments, they are all destructive; count their voices, everyone speaks for himself; they are only agreed in arguing with each other. I could find no way out of my uncertainty by listening to them. They speak of strange ‘systems of force, chance, fate, necessity, **atoms, a living world, animated matter**, and every variety of materialism.”

— Jean Rousseau (1762), *Emile: on Education* (character: Savoyard priest) (pgs. 230-31)

In other words, Holbach and his group of philosophes, considered metabolizing things, such as plants, oysters, humans, and possible ‘beings on other planets’, as types of ‘animated matter’, made of atoms. Hence, the question of where to draw the living / nonliving dividing line, led them to speculate, knowing that the search for the line divide was untenable, about a living world or universe, in which no line existed, where possibly all things might, in some sense, be considered alive.¹¹ Thims himself dabble in this domain of thought or logic for some time, before arriving at the abioism position. Henry Bray’s *The Living Universe* (1910), which we will touch on shortly, for those interested, was the last intellectually cogent attempt at panbioism.³

The culmination of this philosophical school was his *System of Nature: Laws of the Moral and Physical World* (1770), wherein he outlined his matter and motion theory. The following is Holbach’s summary of how man could arise from matter:

“If filings of iron, sulphur, and water be mixed together, these bodies thus capacitated to act on each other, are heated by degrees, and ultimately produce a violent combustion. If flour be wetted with water, and the mixture closed up, it will be found, after some lapse of time, (by the aid of a microscope) to have produced organized beings that enjoy life, of which the water and the flour were believed incapable: it is thus that inanimate matter can pass into life, or animate matter, which is in itself only an assemblage of motion. Reasoning from analogy, which the philosophers of the present day do not hold incompatible, the production of a man, independent of the ordinary means, would not be more astonishing than that of an insect with flour and water.”

— Baron Holbach (1770), *The System of Nature* (pg. 20)

In this work, matter moving things such as oysters or humans are but one of a series of things produced by nature in perpetual chain of motion and combination:

“From the benumbed oyster to the thoughtful and active man; we see an uninterrupted progression, a perpetual chain of motion and combination, from which is produced beings.”

— Baron Holbach (1770), *The System of Nature* (pg. 27)

Holbach Hotel Philosophers

	Baron Holbach (232-166 BE) (1723-1789 ACM)		Denis Diderot (241-171 BE) (1713-1784 ACM)		Claude Helvetius (240-184 BE) (1715-1771 ACM)
	Jean Alembert (238-172 BE) (1717-1783 ACM)		Jean Rousseau (243-177 BE) (1712-1778 ACM)		David Hume (244-179 BE) (1711-1776 ACM)
	Buffon (248-167 BE) (1707-1788 ACM)		Nicolas Boulanger (233-196 BE) (1722-1759 ACM)		Jacques Naigeon (217-145 BE) (1738-1810 ACM)
	Jean Marmontel (232-156 BE) (1723-1799 ACM)		Friedrich Grimm (232-148 BE) (1723-1807 ACM)		Andre Morellet (228-136 BE) (1727-1819 ACM)

The Holbach school, in their attempt to solve the life vs nonlife problem, in the context of explicit atheism and matter and motion philosophy, discussed things such as the ‘living world’, aka the possibility of panbioism, which is a step away from abioism.

The influence of the Holbach school and his *System of Nature*, in particular, was far reaching. Holbach’s grand atheistic philosophical school and this book, influenced: Denis Diderot, Jean Sales, John Stewart, and Johann Goethe, who each read his book went on to develop matter and motion theories of their own. Each of these is discussed in the following four sections.

5.3 | Diderot: Living points? (1769)

In summer 1769, Diderot, with his wife and daughter away, and friends not around, having a few free months to write, he penned *Alembert's Dream*, a fictional dialogue between himself and Alembert. The following is the opening line of dialogue, the gist of which being that if **god does not exist**, then stone must ‘feel’, specifically:

“I grant that a ‘being’ [aka god] which exists somewhere yet corresponds to no single point in space, a being which has no spatial dimensions yet occupies space, which is wholly complete in each part of this space, which is essentially different from material stuff yet is united with it, which is affected by matter and moves it without moving itself, which acts on matter yet is subject to all its changes, a being about which I haven’t the slightest conception—a being with such a contradictory nature is difficult to accept. But there are other obscurities and difficulties waiting for anyone who rejects such a being. For in the last analysis, if this ‘sensitivity’ which you put in its place is a universal and essential quality of matter, then **stone must feel!**”

— Denis Diderot (1769), *Alembert's Dream* (character: Alembert) (§1.1)

As the talk unfolds, the two dialogue with each other about whether living matter can arise from dead matter and, as we see above, whether or not ‘stones have feelings’? While this may sound silly or a childish on first pass, this actually is a grand philosophical question.

This premise of a stone having feelings or being human-like, in some way, dates back to the Egyptians, presumably the pre-dynastic era (3200BC), who believed that the lodestone was the ‘bone of Horus’, such as stated by Manetho:

“The loadstone is called, by the Egyptians, the ‘bone of Horus’, as iron is the ‘bone of Set’.”

— Manetho (c.300BC), *Publication*

The Egyptians also believed that what occurred on earth, i.e. loadstone attracting iron, was mirrored in the stars, in the sense that iron attracted to loadstone just as the star constellation of Set attracted to and did battle with the star constellation of Set.

Thales, in turn, after studying at the College of Heliopolis, Egypt, in 600BC, learned their general science and cosmology, but when he returned to Greece, discarded the god part of the argument, and instead argued that lodestone, the magnetic rock, has a ‘soul’, because it has the ability to move iron filings to it.

At this point, before we can progress further, noting Thales believed that magnetic stones had souls, and that Diderot believed that stones had feelings, and was question whether living or alive matter can come from dead matter or non-alive atoms and molecules, must digress on the etymology of the word ‘feel’. To summarize, Diderot asks the following two key questions:¹

1. Can **alive** matter come from dead matter?
2. Do stones **feel**?

Herein, we are arguing that ‘alive’ does not exist. Are we also to argue, in a similar vein, that ‘feelings’ do not exist?



The solution to this seeming confusion, is resolved when we compare the etymology of the word *alive* with that of the word *feel*. While it is not our focus to digress on the origin of feelings or whether or not atoms and molecules have ‘sense’ or sensitivity as Diderot probes the question, we are nevertheless *forced*, because of Diderot, to touch on the etymology of the word *feel*. The word ‘feel’ and ‘force’ both derive from the Greek letter phi, as explained below.

5.4 | Ptah and Phi (Φ)

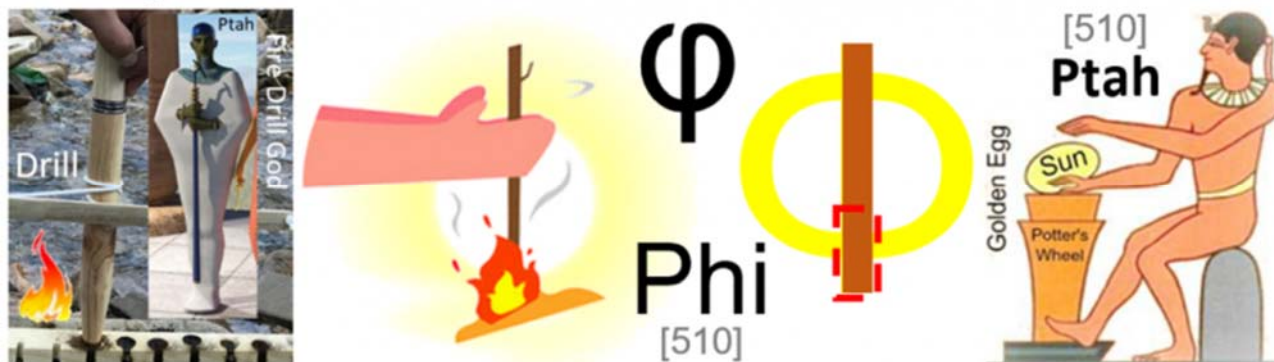
The Greek letter phi, symbols: Φ (capital), φ (lower case), is the 23rd letter of the Greek alphabet. Phi has a letter value of 500, this being one of eight three-digit value letters, aka

part of the ‘888-cypher’, which we will discuss later. The sound of the letter phi is pronounced ‘ph’ in English. The Roman and English equivalent letters of phi are F (capital) and f (lower case).

Phi has numerical equivalent value or isopsephy value of ‘510’. In other words, the sum of the letter values of the word ‘phi’, spelled φι (NE:510) in Greek equal ‘510’, the sum of the letters φ (NE:500) + ι (NE:10). This is shown in the NE column below:

#	Letter	888	Value	Name	Vowel	NE	Greek God	Egyptian God	Sound	Roman
23	Φ φ	8	500	Phi		510	Hephaestus	Ptah	ph	F, f

The secret name of the letter ‘phi’ is the Egyptian god Ptah, spelled: Φθα (NE:510), the sum of the letters Φ (NE:500) + θ (NE:9), + α (NE:1). Ptah, the supreme god of Memphis, Egypt, the dominate god of Egypt in 2800BC, was a sun god, whose method of igniting the sun each morning, was to convert his body into the form or shape of a ‘fire drill’, as shown below left:



Ptah then spined around very fast in soft wood so to start the flame of the sun, via frictional heat making the flame. The sun itself was previously made on his potter’s wheel in the form of a clay-based golden egg, shown above right.

The Greek equivalent of the Egyptian god Ptah is Hephaestus. Hence, the story of Prometheus stealing divine fire from Hephaestus and giving to human kind, originated from this Ptah fire drill.

In 450BC, as reported by Herodotus, the form of this myth was reported to him as the story of the phoenix or flaming bennu bird that gives birth to the sun out of the tip of the pyramid. The word **phoenix** is a **phi**-based term. Many other terms, such as force, feelings, fire, iron (ferro), light (photon), etc., all derive from the Ptah turned Greek letter phi etymology, as summarized below.

The following are modern φ-based (**phi**-based) words and terms, etymologically derived from the Egyptian-to-Greek Ptah solar fire drill, blacksmith, golden egg, phoenix mythology:²



Science terms				Human terms			
Heat	Physics	Light	Fe	Love	Sex	Feel	Mind
fire (φωτιά)	Force (φιλία)	photo	iron (ferro-)	Philo- (Φίλο-) "loving"	Phallus	Feel (αφρή)	Phren (φρήν)
flame (φλόγα)	Friction	photon	ferromagnetic	Philein (Φιλίν) "to love"	Fellatio	Feeling	Schizo-phrenia
Phoenix (Φοίνιξ)	Affinity	phosphorus	forging (smithing)	philosophy	Fuck	Friend	Phrenology
Phlogiston	Physiology			philosopher	Fornicate		

The key point to note here, in all of these *phi*-based words, as compared to all the dozens of *bio* or *alive* based terms, which have a completely different *beta*-based etymology, that the root of the *phi* etymology traces back to a real conceptual thing, namely atoms and molecular surfaces rubbed against each other to make friction, heat, flame, and light. The inquisitive reader can readily order fire drills on Amazon and go start a fire in their own back yard solely by the action of friction. The myth part of all of these *phi*-terms has completely been discarded, and we are left with a real *physical* property.

Physics also is a *phi*-based word. No one argues whether or not physics exists, because heat and fire made by friction are measurable things. Hence we call a physical property a real property because the flame made by a fire drill is a real thing.

The word love and **philosophy** derive back to the fire drill, as shown adjacent. The premise of love as a force of attraction derives back to the theories of Empedocles, and his attractive force called *philia* (φιλία) (NE:551), secret name: 'will' (βουλήμα), as we have discussed. The word love, to note has alternative etymologies, e.g. the Italian word *amore*, *a-*, meaning: against, + *-Mor*, meaning: death god, but that is not our focus herein.

The taboo word '**fuck**', to go through another example, a word already banned socially at the time of Diderot, also derives from the Ptah fire drill meaning etymology. A depiction of Ptah, in the form of a fire stick, as shown below, right. Specifically, in other words, in 2800BC, the Egyptians, or the Greeks who invented the '510 cipher', in about 1100BC, considered the body of the god Ptah, spinning around in a whole, equivalent to the male 'phallus', also a *phi*-term, going in and out of hole, making the heat of love, to be theoretical origin of babies, in some sense, although the theoretical details of this are lacking.



In respect to the Diderot dialogue, try to put this *phi*-fuck etymology in the following context:

"Yes, that stones must feel takes a bit of swallowing, for the person who cuts it, carves it, crushes it yet doesn't **hear it crying out?**"

— Denis Diderot (1769), *Alembert's Dream* (character: Alembert) (§1.1)

Here the mind becomes confused. Because the stone or rock makes no noise when crushed, we believe it therefore to not have so-called *feelings*. Yet if we take two stones and rub them together we can in deed make warmth in the stone, i.e. increase their surface temperature, at the point of the rubbing, owing to surface friction. Hence, there is, in reality, some sort of so-called *phi*-effect in the stone.

Secondly, if we define life as 'faculty of reaction', as Rene Lubicz, in his *Temple of Man* (1949) does, we can point out that there is no *faculty of reaction* between a rock and a human, say when we step on a rock as compared to stepping on a flower. A rock will not grow differently depending on what type of music is played around it, whereas a plant will.

Thirdly, if we think about this in the bigger picture viewpoint, such as when the stone was formed inside of the earth, at high temperatures and pressures, we have geo-thermal formation reactions, that can be defined precisely according to geological thermodynamics, in terms of formation energies, in the same way that *human formation reactions*, e.g. when two people fall in love (or not), *fuck*, and make a baby, can be explained according by ‘big picture’ of heat, work, and energy, that went into the fuck, not just in the mechanics involved in the moment of the fuck, but the years or decades of preparation, e.g. school and occupation achievement, precisely, according to human chemical thermodynamics.

Again, while it is not our intention to digress on whether or not rocks have feelings, we do see that the need, when making such grand chain of being comparisons, to employ not only the correct *viewpoint*, but to employ the correct terminology, so also to understand, in a fundamental etymological sense, the words we are using to discuss such questions, so that we are on solid scientific ground, and discussing real things. The following query by Howard Lovecraft will exemplify things:

“How do we know that that ‘form’ of *atomic and molecular motion* we call ‘life’ is the highest of all forms? Perhaps the dominate creature—the most rational and god-like of all beings—is an invisible gas. Or perhaps it is a flaming and effulgent mass of molten stardust. **Who can say that men have souls while rocks have none?**”

— Howard Lovecraft (1916), “Letter to Reinhart Kleiner, Ira Cole, and Maurice Moe”, Aug 8

A single bacterium, moving around, e.g. is a forced CHNOPS+9E species of ‘atomic and molecular motion’, as Lovecraft phrases things. There is absolutely no need to affix historical religio-mythical terminology, e.g. the word ‘life’, to its movement. Nor do we need to project, in anthropomorphic vision, defunct terms such as soul into rocks and throughout the universe. Rather, we only need to reverse this, and to deanthropomorphize our view of our own movements.

Diderot, in his various dialogues, to note, spends a good amount of time how he sleeps with lots of women and men (as he seems to suggest), while having a wife and daughter in toe, but also wants to understand if what he is doing is right ‘morally’ according to the laws of the universe, and if in fact morals exist. Hence, when he asks if ‘stones feel?’, he is really asking bigger questions about existence, beyond that of Bible-based morality.

With respect to the words: with the words alive, life, and living, this same *derived-down-to-reality* etymological logic, however, does not hold. When we reduce alive down to its roots, or say to the rock level of discussion, we end up reducing down to an etymology based on magic squares, a spiritual Ankh to the mouth of clay humans, and living sun passing through the magical milk light of the Milky Way, before being reborn, as will be discussed. In short, the reason we cannot explain the word *alive* by *physics* (or *chemistry*) is that we cannot rub two atoms together and make ‘life’ the way we can by rubbing atoms together to make light, or photons released from electrons.

In part two of the Diderot-Alembert dialogue, Alembert starts dreaming, and, while his mind tries to process the dialogue, starts talking in his sleep. The following is the key section, as concerns the origin of life:

“Nothing at first, then a **living point** ... Another living point attaches itself to this one, and then another—and from these successive conjoinings a single living unity results, for I am certainly a unity It’s certain that contact between two **living molecules** is something different from the contiguity of two inert masses ... and this difference—what could it be? ... a customary *action and reaction* ... That way everything comes together to produce a sort of unity which exists only in an animal ... My goodness, **if this isn’t the truth, it’s really close to it.**”

— Denis Diderot (1769), *Alembert’s Dream* (character: Alembert, §2.26)

Diderot is very close to the truth indeed! As he had already learned the principles of affinity chemistry, having studying chemistry under Guillaume Rouelle, from 1754 to 1757, he knew that combinations of the elements, by the action and reaction forces of affinities of chemistry, can be used to explain the formation of things, presumably both inanimate, i.e. basic chemicals, and animate things, e.g. plants, animals, and humans. He conjectures that at first there were atoms or points, i.e. nothing, as he says, then a ‘living point’ forms. These living points then join to form a ‘living molecule’. Living molecules then join to form the first types of plants, animals, and humans. Owing to space and time, we will not be able to digress further on Diderot’s points. Digression is available online.¹

Synopsis: Denis Diderot, Baron Holbach, and all the debates at the Holbach Hotel pioneered modern abioism, as far as things could be taken in this century.

References

1. https://hmolpedia.com/page/Alembert's_Dream
2. <https://hmolpedia.com/page/Phi>
3. https://hmolpedia.com/page/Holbach_salon

6. Historical: Sales (1777) to Maxwell (1862)

“We conclude that there exists a principle of the human body which comes from the great process in which so many millions of **atoms** of the earth become many millions of **human molecules**.”

— Jean Sales (1777), *Philosophy of Nature, Volume Four* (pg. 281)

Chapter point: In the wake of Holbach’s *System of Nature* (1770), scholars including: Jean Sales, John Stewart, Johann Goethe, and Percy Shelley, all published reflections on their mental digestion of Holbach’s *System*. In 1862, James Maxwell introduced the *electromagnetic* force to the world. [length: 13-pgs]

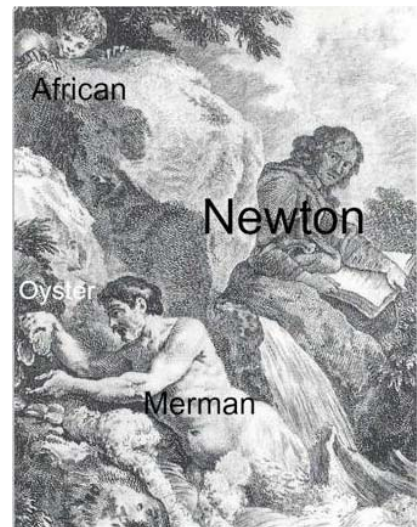
The 1770 publication Holbach’s *System of Nature: the Laws of the Moral and Physical World*, worked to bring about a tidal wave of intellectual reform, in the decades to follow. In particular, in respect to abioism, Jean Sales’ 1777 *The Philosophy of Nature: Treatise on Human Moral Nature*, wherein the term ‘human molecule’ was coined, John Stewart’s 1790 *The Moral State of Nations*, wherein a moral motion theory was presented, and Johann Goethe’s 1809 *Elective Affinities: on the Nature of the Choice of our Elections to Attract to and Bond with Others*, were all reactions to or inspired by Holbach’s *System of Nature*. Each of these works attacked the ‘life from matter’ or origin of life problem in their own way.

6.1 | Sales: Vegan Newton (1777)

In 1777, Jean Sales, in his four-volume *The Philosophy of Nature: Treatise on Human Moral Nature*, a deist-themed reaction to Baron Holbach’s atheistic *System of Nature: Laws of the Moral and Physical Universe* (1770), gives a sharp example of how what one conceptually defines as being alive, particularly in respect to diet, can be heavily influenced by one’s morality system. In the fourth volume of this treatise, Sales, in illustrated section titled ‘Newton in Senegal’, gives us an allegorical tale of Newton perched by the coast in Senegal, Africa, representative of a civilizing force of the enlightenment, checking his calculations of the tides so to confirm his laws of universal gravitation.

At one point, Newton, who is presented as a presented as vegetarian, takes a break from his calculations to contemplate the grandeur of nature, during which he enters into a dialogue with a merman, an oyster, and a native African about whether or not they should eat each other, with dialogue about the morality of each type of diet.

The story ends with Newton, reasoning that since the African has a god, albeit in the form of a dung beetle, that Newton can teach him how to eat morally, as compared to the merman and oyster who have no gods, and therefore eat like brute animals.¹



6.2 | Stewart: Animated matter (1790)

In 1790, John Stewart, a Scottish-English colonel turned peregrinating philosopher, aka ‘Walking Stewart’ as he was known, walked around the world to study dietary habits, religions, and morality systems of all people and countries. Most of work is decoded online.³

Stewart, being influenced by Holbach’s *System of Nature*, viewing all ‘things’ of the world as being various types of matter: inanimate matter, animate matter, and sentient matter, and all ‘motions’ of the world, whether eating motions, walking motions, or the motion to swat a fly or to kill an attacking lion, as classified into two types: moral motion and immoral motion. The full title of his book is as follows:

The Moral State of Nations: Travels Over the Most Interesting Parts of the Globe, to Discover the Source of Moral Motion; Communicated to Lead Mankind Through the Conviction of the Senses to Intellectual Existence, and an Enlightened State of Nature. In the Year of Man's Retrospective Knowledge, by Astronomical Calculation 5000. Year of the Common Era, 1790

Firstly, we note that Stewart, like Thims, employs a non-Biblical dating system of his own invention. He dates the publication of his *Moral State of Nations* to the year 5000 RK or ‘in the year 5000 Recorded Knowledge’ (RK), a date he ascertains from astronomy found in some Chinese tables of eclipses, that he learned about while walking around China, which he refers to as humankind’s year of ‘Retrospective

Knowledge' (RK), according to which is zero year, or 0 RK = 3210 BC, and that his publication is dated 5000 RK or 1790 AD.

Thims, likewise, prior to arriving at the 'Anno Elementum' (AE) dating system, which dates the title page of this book, wherein the zero year is 1955 (when atoms were first seen), such that: 0 AE = 1955 AD = 5165 RK, had toyed with a 'years since the first documented passing of Haley's comet' dating system, but, in the long run, after testing for some years in Hmolpedia, was not fully workable.

When one declares, as Stewart did, that deities do not exist, that 'truth' becomes the new god, and that life is replaced with 'animated matter', and also formulates a new 'religion of nature', then one, by repercussion, accordingly, can no longer, as an intellectual person, continue to date years to the birth of the son of a god, as the 'Common Era' calendar is dated, aka the Jesus myth based year dating system.

Thomas Paine, one of Stewart's good friends, to give some context, likewise had problems with the Jesus calendar, and would sign off his letters, dated as follows:

"Paris, February 21st, 1802, since the fable of Christ"

— Thomas Paine (1802), "Letter to Elihu Palmer", signature and dating method

The year 2021, the year of publication of this book, according to Stewart and Paine is a 'fable year'. Hence, we might just as well date the publication of this book as years since the *Cat in the Hat* (1957AD) or years since Aesop's fables (564BC). This book subsequently, in the theme of Stewart and Paine, is dated in 'Years Since Atoms were First Seen', namely this book is being written in the year 66 Anno Elementum (AE).

Secondly, Stewart advised, quite humorously, that his book should be translated into Latin and buried in the ground, to escape anticipated censorship and suppression. This indeed is funny! While Stewart's *Moral State of Nations* is indeed a good book, and worthy of attention, it does not at all compare to Baron Holbach's 1770 *System of Nature: Laws of the Moral and Physical World*, upon which Stewart's book is based, in either grandeur and or intellectual correctness. To state things directly: the great minds of Goethe and Shelley, who both read Holbach in college, are indebted. Nevertheless, we do note that Holbach had to publish anonymously, and that his book was burned, by the state hangman, in front of the royal palace in Paris. In sober realism, to Stewart's burry his books admonition, we also note that Holbach's *System of Nature* (1770), was published just four years after Jean Barre, in France, where Holbach's book was penned, was tortured, beheaded, and had his body burned, underneath the flaming logs mixed with his publications along with books by Voltaire, all for an alleged vandalism of a wooden crucifix along a roadside.

Third, and most important, in respect to the pre-history of abioism, is that the basis of Stewart's moral motion theory is that each human, as a type of animated matter in motion, is formed, by nature, with the sole purpose, aim, or goal being to procure the greatest amount of happiness or well-being to all 'animated matter', or sentient matter, as he refers to things in some places. The point of nature, in short, is defined by what Stewart argues is an 'animate matter happiness utility function', connected to the great 'integer of nature'.

To give an idea of Stewart's model, which spills out into supposedly near thirty publications, over two plus decades, David Fairer, in his *Organizing Poetry*, referred to Stewart's moral motion of animated matter philosophy as a *panbiomorphic* universe model:

"Stewart expounds what might be described as a 'panbiomorphic universe', it deserves an entirely new term just for itself, in which human identity is no different in category from a wave, flame, or wind, having an entirely modal existence."

— David Fairer (2009), *Organising Poetry: The Coleridge Circle, 1790-1798* (pg. 53)

Stewart, to clarify only used the prefix 'bio' one time, in reference to how the newspapers of his day formed a 'complete biography' of scandals, such as 'whores and gamesters'. Stewart does, however, employ the terms: alive (1), dead (1), living (6), death (39), and life (73), numbers shown being the number of pages in which each term is employed. Of particular note, the use of the term 'dead', used by Stewart one time, is but

SOURCE OF MORAL MOTION ;

COMMUNICATED

TO LEAD MANKIND THROUGH THE CONVICTION OF THE SENSES
TO INTELLECTUAL EXISTENCE, AND
AN ENLIGHTENED STATE OF NATURE.

Speculative or Abstract Truth is a beacon on the shore of Life, to direct the tempest-tost vessel of Humanity in the storms of Error and Prejudice, to the haven of Happiness, Intellectual Existence, and an Enlightened state of Nature.

Practical Truth is the pilot Wisdom, who holds the helm, and directs the tacks, which impelled by the zephyr of Reform, obliquely approximates that beacon, and guards the vessel from the boisterous hurricanes of precipitate Innovation and Revolution, which propelling the vessel of Humanity in the face of the storm, wrecks it on the shoals of Error and Prejudice.

In the Year of Man's retrospective Knowledge, by astronomical Calculation
5000.

[Year of the Common Era, 1790.]

in references to how education has reduced children into becoming parrots who waste their time learning the ‘dead’ languages, presumably Latin:

“The mind of youth is left as uncultivated as the heart; a few grammar rules and compositions in the ancient ‘dead’ languages occupy their mouths and their time, and produce the learning of the parrot, an as improved as that animal they proceed to the university.”

— John Stewart (1790), *The Moral State of Nations* (pg. 16)

We bring this up, because Stewart, on 20 Feb 1822, the morning after his 75th birthday, was found ‘dead’, as the newspapers reported, with an empty bottle of laudanum (opium) next to his body. Now, if Stewart believed himself to be a type of ‘animated matter’, how can a type of animated matter ‘die’ or become ‘dead’? Stewart, in short, believed that the ‘self’ was a wave like flame that arise out of matter, when a human came into existence, which thereafter went back into the ‘great integer of nature’ when one’s identity was no longer with the body.

The following gives a taste of how Stewart works this out with respect to former ‘identity’ of Alexander the Great and himself or his ‘self’, which he sometimes speaks about in the third person:

“Present identity concerned, and interested to procure pleasure for future ‘identity’, which may have separated from and consequently forgot its antecede, represents the interruption of identity in the **dissolution of life**; for by the labor of the identity in life interrupted by death, as a part of nature it must assume other identity, though it must have forgot its antecedent identity of life.

If the mind is once brought to a great force of internal operation or reflection, it can conceive with the utmost facility its internal and immortal connection with nature. *Self*, under all its changes and combination must **ever be a component part of that integer**, or universal mass of matter; and it is impossible in conception, to separate self as a part from its whole, notwithstanding the sudden interruption or dissolution of identity, whose connection being broken cannot remove its interest in the future good and evil of the aggregate mass of matter assuming new identities.

Some part of me was probably [?] some part of Alexander. If he had humanized instead of barbarizing mankind, the universal *happiness of animated matter* being the operation of his identity as Alexander, he would now enjoy under my identity, and his virtuous remembrance would serve to unite the two identities.”

— John Stewart (1789), *Enlightened State of Nature: the Source of Moral Motion* (pgs. 15-16)

Here we see Stewart, in his discussion of identity continuity, between Alexander the Great and himself, digging at what James Maxwell (1878) referred to as the ‘equation of continuity’, as the replacement for what was formerly known as the ‘afterlife’ or immortality.

In the above quote, Stewart says that Alexander *barbarized* mankind, whereas Stewart thinks that Alexander, if he were educated correctly, should have *humanized* mankind. The logic of this argument is found in tenet #8 of Stewarts eight-point religion of nature, which is summarized below:

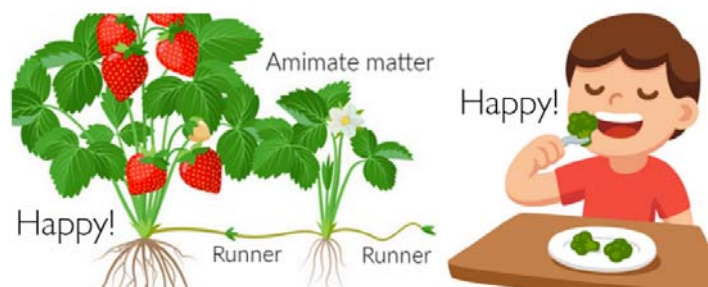
1. Nature is the great ‘**integer of being**’, or matter and motion, without beginning as without end.
2. Mankind are the instruments of nature in its *moral motion*, formed to **procure well-being or happiness to all animated matter**.

This is a pretty good start, however, we could point out to Stewart that vegetable plants, such as crawling strawberry plants, an out of water rising lotus, or a mouth-closing venus fly traps, if observed via time-lapsed video, can be seen to have a certain type of ‘animation’ to them. Strawberry plants when it grows, sends out ‘runners’ or legs, which grip the ground, starting a new daughter plant at that location, which then sends out a new runner. Jacques Loeb’s *Forced Movements, Tropisms, and Animal Conduct* (1918) gives a well-rounded overview of how plants, insects, and smaller animals can be grouped into the category of animate matter that is forced into movement.

Hence, eating a fruit or vegetable, as shown below right, where a child munches on broccoli, decreases the well-being or happiness of plants, in some sense, in the Stewart model.

Here we see a so-called ‘conflict of happiness’ of two forms of animated matter, according to the Stewart model? Certainly, the crux of this problem has reconciliation. A platform of correct terminology, however, needs to be established, first and foremost.

3. All *animated matter*, however organized, changed, or dissolved, is related as parts inseparable from the great integer nature.



4. Bodies ‘intellectualized’ and possessing identifications of I, you, and they, are *created* to possess consciousness of existence by sensations of pleasure and pain; and though these [individual identities] are **annihilated upon the dissolution of the bodies**, they still, as parts of nature, are concerned in the future pain and pleasure of their *common integer*, from which they are inseparable, though subject to endless change and revolution.

These next to points, are a good outline. In tenet #3, by using the term ‘animated matter’ instead of *living matter*, and how matter animated derives from and is inseparable from the great integer of nature, basically aligns himself between panbioism and abioism, while essentially side-steps the life vs nonlife issue. The term ‘created’ seen here, to clarify, is not done in the sense of *creationism*, as we now tend to think of this term, as Stewart’s model was about as atheistic in language as one could publish in this decade, without getting arrested.

In tenet number #4, Stewart attempt to broach the question about what happens when a person ‘dies’, when every ‘thing’ is part of the great ‘integer of nature’ as he defines things. Stewart addresses via his ‘identity’ model of a person, wherein, following the dissolution of the body, a person’s identity becomes part of the ‘integer of nature’, being in some way concerned with the future pain and pleasure of the common integer of nature. Next he says that both moral motion and physical motion are subject to fixed laws

5. Moral and physical motion are subject to *fixed laws*, which produce volition — the cause of action in animate matter.
6. The judgment or result of the operation of the mental faculties can have cognizance only of secondary causes which it apparently controls and directs to produce well-being or happiness to its essence, which it will ever suppose to be the end [object] of primary causes.
7. The human intellect has no power beyond the secondary causes of volition, and their end, which is happiness, all beyond being incomprehensibility; and the reasoning of analogy can influence only from its probability, and that must be considered relative to the happiness of all animated nature.

Stewart’s last tenet, is where he runs into conceptual difficult, by stating that the key rule of his new religion of nature is to ‘do no violence to any part of animate nature’ (e.g. a child eating strawberries seems to be in violation of this tenet):

8. Man, in forming a volition to procure happiness, begins with ‘self’ as the center, and extends to the circle formed by all animate matter. He is to will for himself alone, and **do no violence to any part of animate matter**; and in the orbit of social attraction he must imitate the revolution of the celestial bodies, whose reciprocal repulsion and attraction operate without concussion or violence to the center, or the point, self. Man cedes not, but reforms his volition when it is in collision with that of another, to acquire more happiness, considering himself a component part in this eternal relation to the great integer of nature; and by this means he produces and eternizes a system of moral harmony, or pain and pleasure, of which he must ever be a center, and participate as an eternal part of an eternal integer; which connection is indissoluble, though its mode is incomprehensible, and passes through every form of matter in an infinite revolution.

Tenet #8, in short, advocates: veganism and pacificism, based on reasoning derived, according to Stewart, from fixed laws, describing matter in motion, and in particular animate matter in motion. While Stewart seems to be genuinely digging in the correct direction, we will note, as history has shown, letting one’s newly derived morality dictate their behaviors absolutely can lead rather quickly to some rather questionable ways to exist? Jainists who walk around with masks on, to keep bugs out of their mouth, and carry brooms, so to sweep away any bugs or insects they might step on, so that they don’t step on or eat on of their relatives, is one example. If we were to carry this logic to its extreme, knowing, in modern terms, that we are related to the hydrogen atom, we might as well stop drinking water (H₂O), and let ourselves thirst-do-death, so that we don’t eat our grandfather, aka hydrogen, in the name of our new morality! This is what Stewart’s tenet #8 points towards.

The good point is that Stewart says these moral motions are based on ‘fixed laws’. As we know have a better idea about what these fixed laws are, we should be able to derive a more accurate and updated set of moral motion tenets or religion of nature framework. Moreover, Goethe, as touched on in the next section, like Stewart built on Holbach, postulated that these new ‘fixed laws’ behind not just moral motions but also moral reactions, are to be found in the ‘moral symbols’ of affinity chemistry, aka physical chemistry in modern terms, and the fixed laws of physical chemistry, as we now understand them, are the laws of thermodynamics.

The following, to go through one example, is Stewart’s take on what to do when a fly lands on you, which he says should be swatted away, but not killed:

“Let us suppose that a man, who is **incommoded by a fly**, instead of driving it away, kills it. Utility to the system of nature, the only standard of moral motion or action, may be applied to this act in the following manner: the fly in committing an act of violence on my body, agitates the chain of nature: it is useful to remove this cause, but utility does not demand the annihilation of it by death, because it disproportions the means to the end, and infects, by a motive of resentment, the disposition of the mind for universal sympathy and benevolence.”

— John Stewart (1789), *Moral Motion* (§2, pg. 82)

Yet, when a tiger invades the environ of man’s habitation, it should be destroyed, owing to what he calls disturbances in the *vibrations in the chain of nature*. He explains as follows:

“The **destruction of the tiger** and lion, when brought to the standard of utility, may be justified in proportion to the violence they cause the human specks, which, as being the most happy existence of matter, is to be preferred to the brute. When the tiger infests the environs of man’s habitation, **utility requires him to be destroyed**, and this would cause no vibration of the chain, because it would re-establish a counterpoise to the effect of the concussion began by the violence of the tiger; but when the hunter wantonly seeks him in the forest to destroy him, to promote the pleasure of the chase, the chain of nature would be agitated by this act of remote utility; for utility must be urgent to justify the least act of violence, otherwise the volition becomes corrupted, and the source of moral motion being polluted, its streams would convey the cause of moral pestilence or vice over all humanity.”

— John Stewart (1789), *Moral Motion* (§2, pg. 82)

Basically, Stewart’s reasoning is that the tiger, similar to Alexander the Great, were in an uneducated state of nature, and hence they cannot be faulted for ‘violating animate matter’. The following, accordingly, is a summary of Stewart’s moral motion philosophy based on utility of optimizing animate matter happiness:



Comically, one can imagine Stewart sitting in his home, surrounded by flies, munching on a carrot, while looking out the window for lions.

Stewart, while being well-meaning, and having thought this logic through, to an over-typical degree, is ignorant of the basic physico-chemical fact that when reactive matter is brought into contact, be it animate matter or inanimate matter type, that chemical reaction will ensue, and result in change and transformation, and that in many cases a sort of chemical violence will be seen in the transition state. This is seen when territories grow to overlap in chimpanzee societies, and chimpanzee war results, or when two countries grow to overlap in territory and world war results. These same transformations occur at the chemical level, only we don’t call them ‘war’, we call them chemical mechanisms.

Stewart here, in short, is oblivious to this chemical transformation perspective of reality. Nevertheless, Stewart’s model is a step above the classic ‘because god said so morality’ model, which presently runs a majority of the minds of the world.

6.3 | Goethe: Otilie and the life-death Echo CHEM-cypher? (1809)

In 1770s, Goethe, in his early 20s, jotted the following reflections:

“I perceived something in nature, **whether living or lifeless, animate or inanimate**, that manifested itself only in contradictions and therefore could not be expressed in any concept, much less any word. It was not divine, for it seemed irrational; not human, for it had no intelligence; not diabolical, for it was beneficent; and not angelic, for it often betrayed malice. It was like chance, for it laced continuity, and like providence, for it suggested context.”

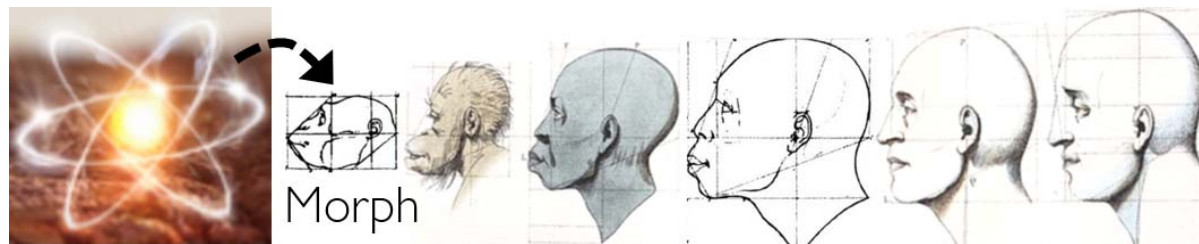
— Johann Goethe (c.1772), *Autobiographical Notes*

He says here that he perceived a ‘thing’ nature that could not be defined as either animate or inanimate, in respect to movement, or as living or lifeless, in respect to anthropism divides? Then he says that this perceived ‘thing’ can infiltrate all other things or bodies of nature, and to thereby, in some way, work to sperate and combine them:

“Everything that limits us seemed penetrable by it, and it appeared to dispose at will over the elements necessary to our existence, to contract time and expand space. It seemed only to accept the impossible and scornfully to reject the possible. The *essence*, which **appeared to infiltrate all others, separating and combining them**, I called ‘daemonic’, after the ancients and others who had perceived something similar.”

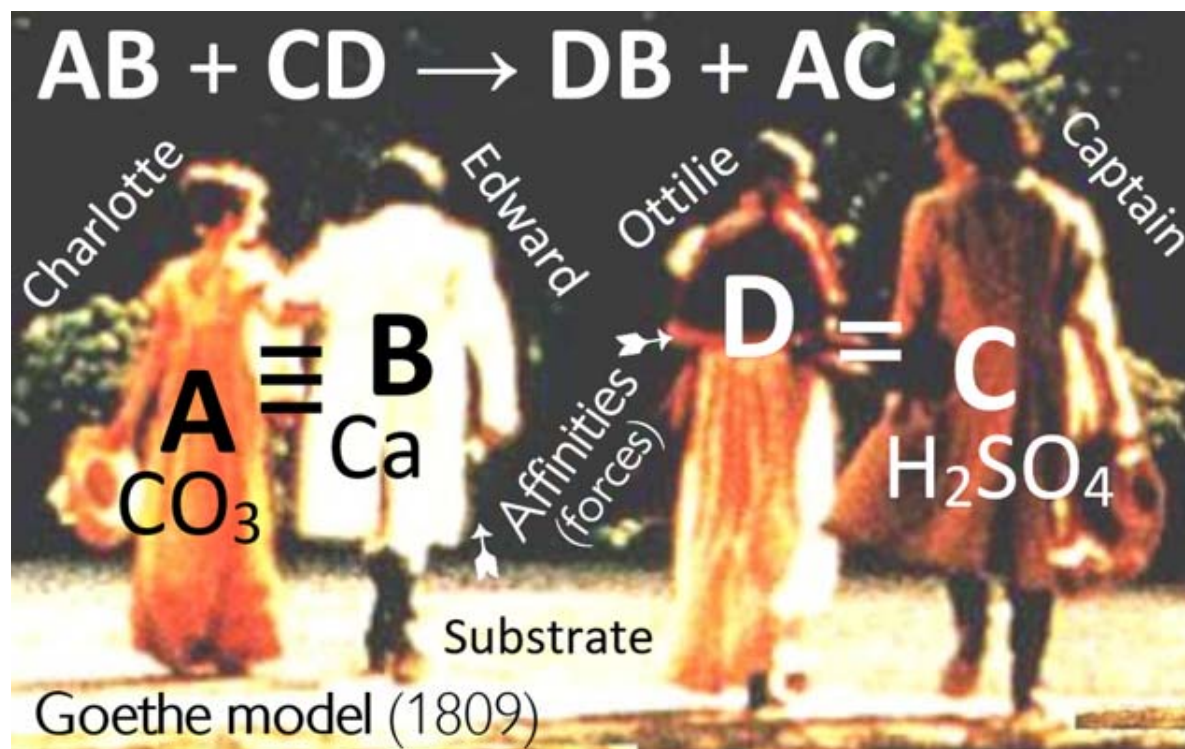
— Johann Goethe (c.1772), *Autobiographical Notes*

In 1784, Goethe, amid his effort to find proof that humans evolved, morphed, or form-changed from earlier animal forms, discovered the human intermaxillary bone, thereby refuting the Petrus Camper’s 1760 assertion that humans were ‘distinct’ from other animals, because they specifically lacked an intermaxillary bone. Goethe then penned his Lucretian-style scientific poems ‘The Metamorphosis of Plants’ (1790) and ‘Metamorphosis of Animals’ (1799), outlining the model that both plants and humans have morphed over time from atoms and chemicals, as shown below, the sketches at right being Camper’s 1760s anatomical drawings, comparing apes to humans, in respect to changes in facial angle:



Here, we note that this atom shown at left (above) is decidedly not alive. Thus, in Goethe’s modern Lucretian mind, he is beginning to theorize about how decidedly non-alive atoms can morph, over time, into monkeys and then into humans.

In 1809, Goethe, in his *Elective Affinities*, combined this logic into a cypher-based novella, which introduced his model of humans evolved or morphed over time from chemical, via chemical reactions mediated via the forces of the chemical affinities, as summarized below:



The core of his *Elective Affinities*, was his chapter four, wherein he presents us with the following human chemical reaction, wherein Charlotte, chemical species A, is married to Edward, chemical species B, central protagonists of the novel:



Charlotte and Edward are bound together in a weak bout working marriage, similar to how calcium Ca and carbon trioxide CO_3 are found bound together in the white powder called limestone, as shown below left. The novel proceeds by inviting Edward's old friend the Captain to come to stay with them on their vast country estate for some time. The Captain is conceptualized as sulfuric acid H_2CO_4 , as shown below middle left.



Subsequently, when the Captain or sulfuric acid is brought into contact with the weekly married Edward and Charlotte, the marriage bond breaks, after which Charlotte is displaced into the form of a gaseous carbon dioxide CO_2 , and the Captain re-bonds with his old friend Edward, their friendship conceptualized as a form of gypsum CaSO_4 , shown above middle right.

Later, a young girl, named Ottilie, the adopted daughter of Charlotte's deceased best friend, is invited onto the estate. A new child is produced out of these human chemical reactions. This model, according to Goethe, when scaled up and down the chain of being, chemicals to humans, explains all form change in the world. Goethe's model is basically correct.

Now, on the vexing question, as to how 'life' fits into this human chemical reaction picture, Goethe enacts a dialogue between: Edward, Charlotte, and the Captain, while in the laboratory of the estate, and doing some experiments, while at the same time thinking about the chemicals in the beakers reacting as the same as themselves reacting to each other. The following is the key dialogue, voiced by the Captain:

"You ought yourself to see these creatures, which **seem so dead**, and which are yet so **full of inward energy and force**, at work before your eyes. You should observe them with a real personal interest. Now they seek each other out, attract each other, seize, crush, devour, destroy each other, and then suddenly reappear again out of their combinations, and come forward in fresh, renovated, unexpected form; thus you will comprehend how we attribute to them a sort of immortality — how we speak of them as having sense and understanding; because we feel our own senses to be insufficient to observe them adequately, and our reason too weak to follow them."

— Johann Goethe (1809), *Elective Affinities* (§: 1.4) (translator: James Froude, 1854)

Goethe here asks us to think about how a seemingly 'dead' chemical, such as dry powdery limestone, or a married couple in a stagnated relationship, can be seen to be so full of inward 'energy and force', when put into contact with the right species, which ignites the reaction and brings those so-called dead chemicals back to life? The confused part of this is the use of the anthropic terms: life, sense, and understanding used in both scenarios.

Goethe, however, gives us a clue as to how we might solve this vexing confusion, in what is called the OTT cypher. Specifically, we are told in his novel that both the Captain and Edward were called 'Otto' in youth, this being their baptismal name. The rest of the cyphers, having been decoded by Goethean scholars over the last century, are as follows:

- Edward: called '**Otto**' in youth
- Captain: called '**Otto**' in youth
- Charlotte = Charles + '**Otto**' (in French)
- Ottilie = '**Otto**' (in Latin diminutive)
- Ottilie: name means '**Ott**' + Lillie (red Lillie symbol of passions)
- Child (born during the novel): name given is '**Otto**'

- Mittler: wins the L-**Otto** (lotto)
- Saint **Ott**ilia (c.622-720): name means ‘Sol Dei’ (Ol-dei) or sun god
- **CHEM**: acronym of characters: Charlotte, Hauptmann (Captain in German), Edward, Mittler
- **ECHO**: acronym of characters: Edward, Charlotte, Hauptmann (Captain in German), Ottilie
- **EO**: acronym of characters: Edward and Ottilie (Goethe) and Eurydice and Orpheus (Ovid)

In sum, firstly, each of these ‘Ott’ characters in novel, according to the cypher, is a type of ‘CHEM’ or morphic *chem*-ical. Secondly, we know that each of these Ott-characters, are themed on Saint Ottilie, aka ‘Odilie of Alsace’, a girl who was born blind, but had her eyesight restored at age twelve. She thereafter became known as the patron saint of vision restoration. Thirdly, the ECHO acronym cypher is a reference to the characters Narcissus and Echo of Ovid’s *Metamorphosis* (8AD).

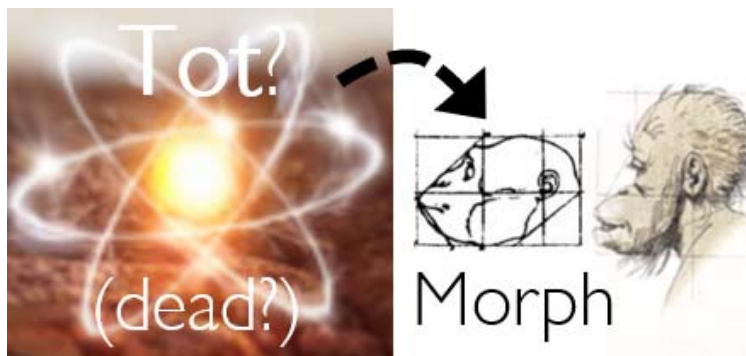
The first meaning we get from these cyphers is that, according to Goethe, our first tendency will be to think about the problem as Narcissus does when he looks in the water and sees his own reflection. Hence, our first inclination, when we look into the chemical beaker and see the chemicals react, is to project the concept of life into the chemical reaction, seeing our own ‘reflective ideas’, so to say in the chemicals, and thus to call chemicals ‘alive’, as the Captain does in the above paragraph, and hence arrive at panbioism view of nature. This Narcissistic view of nature, however, results because we are ‘born blind’, like the child Saint Ottilia, and not able to see the true view of nature.

Another clue we are given to the puzzle is the following cypher, wherein we see that the word ‘tot’, which means ‘dead’ in German, derives from the Old High German tōt (akin to Old Saxon dōd), from Proto-West Germanic **daud*, from Proto-Germanic **daudaz*, is a palindrome of Ott:

- **TOT** (meaning: ‘death’ in German): palindrome of OTT

The translated of the German ‘tot’ ss found in the Dutch *dood*, Danish *død*, Norwegian *daud*, and English *dead*. Goethe here asks: how can a Tot (dead thing) morph into an Ott (living thing)? Is a ‘chem’ an ott (passion-filled character) or a tot (dead character)?

Later, when we read about John Tyndall (1874) speaking about ‘dead atoms’, we will recall Goethe’s TOT-cypher.

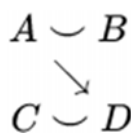


Lastly, in respect to the EO acronym cypher, which are letters that get engraved on a glass in the novel, which get symbolically destroyed, these are a reference to the characters Eurydice and Orpheus of Ovid’s *Metamorphosis*. In this story, Orpheus marries Eurydice, a woman of beauty and grace, but their happiness has been predicted not to last. Eurydice eventually gets bitten by a snake, and dies, and goes to Hades, the underworld. Orpheus goes down to Hades and pleads with the gods to get her back. The gods eventually agree to give her back to the world of the ‘living’ on the condition that when Orpheus takes her back to the world, out of the dark cave, he must keep her behind him, and cannot look at her until he comes out into the light.

All goes as planned, until at one point, not hearing her footsteps, at one point, Orpheus begins to think that the gods have deceived him, and turns back to look for her, at which point Eurydice is whisked back to the land of the dead. Orpheus tried to return to the underworld, but it would be assumed that a person cannot enter the realm of Hades twice while alive. The moral here being, supposedly, that we will continue to confused about life, death, and love, in respect to its true chemical view, until the day comes when we begin to ‘we see the light’! The ‘light’ in reference here being the ‘Sol Dei’ (Ol-dei) or ‘light of the sun’ of the vision-restored Saint Ottilie. In other words, once we understand that *light* is what makes animation, releases energy and force, and brings about transformation and form change in CHEM-things, be it Edward and Charlotte, and ape or an orangutan, or calcium and carbon trioxide, then we will finally be able to look back!

The following is a screenshot, shown with English subtitles, and annotations, from the 1996 French-Italian remake of *Elective Affinities*, showing the Captain in the laboratory explaining that how he, as chemical species C, or sulfuric acid (H_2SO_4) below left, is now bonded in his new friendship reaction, with Edward, species B, as calcium (Ca), that now with Charlotte, species A, or carbon trioxide (CO_3) left alone, she will thus ‘throw herself’ at Ottilie, species D, below right, when she arrives at the estate.

The chemical reaction notation, done by the Captain, where the undercurve $\smile$ symbolizes a chemical ‘bond’, and the dart $\nearrow$ or reaction arrow symbolizes the direction of the ‘force’ of the chemical affinity, signifies the fact that A is *forcefully* attracted to D, above all the rest:



Here, CO_3 , Ca, and H_2SO_4 are by standard definition ‘not alive’, yet they yield powerful explosive reactions when brought together. Similarly, in Goethe’s novella, when Charlotte (A), Edward (B), Captain (C), and Otilie (D) are brought together, a new child is explosively synthesized. Symbolically, we have:

A = Charlotte [$\text{CHNOPS}+20\text{E}$] $\approx$ Carbon trioxide [CO_3]

B = Edward [$\text{CHNOPS}+20\text{E}$] $\approx$ Calcium carbonate [CaCO_3]

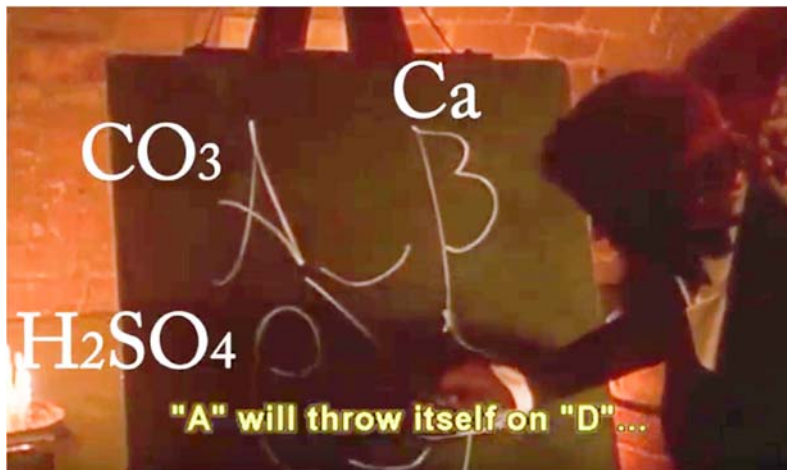
C = Captain [$\text{CHNPOS}+20\text{E}$] $\approx$ Sulfuric acid [H_2SO_4]

The *reaction* in discussion, in the $\text{AB} + \text{C}$ interaction is a single displacement reaction. The force that mediates the transformation, in Goethe’s day, was known by the name ‘chemical affinity’, and in modern terms is known as the ‘electromagnetic force’. In Goethe’s mind, subsequently, if one and the same force, can be employed to describe one and the same reaction, be it two element (2E) or three element (3E) chemical species, such as carbon trioxide or sulfuric acid, or twenty-six element (26E) chemical species, such as Charlotte of the Captain, then why should one of these types of reactionary motions be classified as alive and the other as not-alive?

The difference between A and CO_3 , B and Ca, and C and H_2SO_4 , according to Goethe, are just morphological gradations. Hence, to call one species, e.g. $A \sim B$, or Charlotte and Edward bonded in their dull marriage, as ‘lifeless’, but to call a species such as carbon dioxide CO_2 or hydrochloric acid H_2SO_4 as ‘life-full’ yields a grand intellectual confusion. The following is an alternative translation:

“One has to have these entities before one’s eyes, and see how, although they **appear lifeless**, they are in fact perpetually ready to **spring into activity**; one has to watch sympathetically how they seek one another out, attract, seize, destroy, devour, consume one another, and they emerge again from this most intimate union in renewed, novel and unexpected shape: it is only then that one credits them with an eternal life, yes, with possessing mind and reason, because our own minds seem scarcely adequate to observing them properly and our understanding scarcely sufficient to comprehend them.”

— Johann Goethe (1809), *Elective Affinities* (§: 1.4) (translator: Reginald Hollingdale, 1971)



Goethe here asks: if we evolved or morphed from chemicals, via chemical reaction and form change, driving by the forces of chemical affinities, transformed into induced mental wills of the chemicals, which yields what we anthropomorphically call ‘choice’, at what point in the chain of being does one begin to call chemicals alive? Is limestone alive? Does sulfuric acid possess the property of life? Are gypsum crystals dead? Is carbon dioxide gas, having been set free from a stale marriage, now ‘so full of life’ shooting about the world in search of a new union? Goethe, in another publication, says that we must cross the inorganic-inorganic boundary in order to grasp what is living:

“That power of perception which only cognizes the nature of inorganic phenomena has arrived at the ‘**boundary**’ which must be crossed in order to grasp what is living.”

— Johann Goethe (c.1805), *Source*

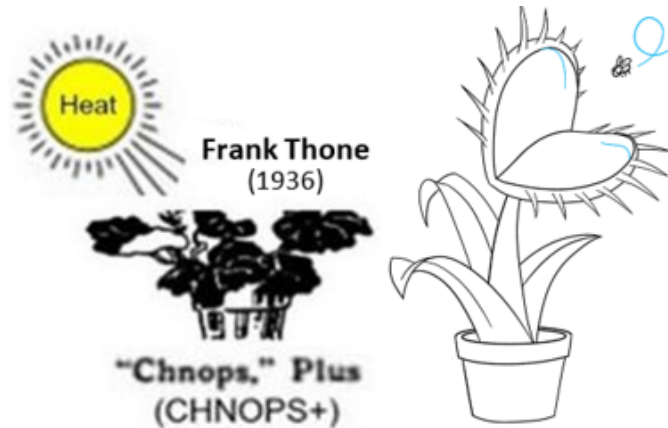
While Goethe, it seems, to not give a direct final statement of what he believed, he did broach the question, and leave us with lots of hidden cyphers as clues to ruminate on. That by itself is enough. Sometimes asking the right question has more value than the answer.

6.4 | Macnab: Growing plants not alive? (1818)

Whether or not one considers a ‘plant’ to be alive depends on one’s belief system, be it religious, scientific, or somewhere in between. We have already seen, in the Fernel section, how plant life was even a question in his day. Moreover, modern belief systems teetering into the quasi-metaphysical moralities, such as seen in

certain strains of veganism, can be quite complex. If one's belief system is Bible-based, then 'plant life' was made by god on the third day of creation of the universe, and definitions are simple. If, however, one is deist materialist, the discussion what exactly is alive and what is permissible to eat, can yield complex discussion and conclusions.

In 1818, Francis Macnab, in his *A Theory of the Moral and Physical System of the Universe*, concluded that growing plants are not alive, not even an animal-like plant, such as the venus fly trap, nor are they dead:



Macnab, of note, was Scottish moral philosopher and scientific theist. Hence, his aim was to attempt to reconcile the Bible with science.

Next, we can compare Macnab's views with the 1936 views of Frank Thone, an American plant physiologist, who defines a growing plant as a solar-powered 'CHNOPS plus' system, as shown above middle. In other words, by the picture of the sun and heat rays, with the redefinition of a plant as a CHNOPS+ elemental system or growing structure, the term 'living' or *alive* simply drops out of the picture, as superfluous:

Living plant (Aristotle, 350BC) → Solar-powered CHNOPS+ system (Thone, 1936)

Macnab's views, alternatively, are an attempt to reconcile Biblical views with the growing modern scientific views of his day, e.g. fossil evidence, Copernican model, Newton's law of gravitation, atomic theory, chemistry, etc., in the form of a seven-day mineral to man model. Specifically, in his §38-44, Macnab interjects into the more hilarious aspects of his entire theory, according to which there were seven periods of creation, the last of which resulted in the moral universe, and that phenomena can be divided into five types: mechanical, chemical, vegetable, animal, and intellectual, the first two classified as "matter", the latter two classified as "spirit", the middle (vegetable) having a combination of both, but also neither alive nor dead:

"A growing plant is not dead, neither is it alive."

— Francis MacNab (1818), *A Theory of the Moral and Physical System of the Universe* (§40)

A plant, according to Macnab, is a 'central state' type of creation, in between matter and spirit, or mixed with matter and spirit, but not alive and without a mind, which he diagrams as follows:

Matter. — *Central state.* — *Mind.*
1, 2, 3, 4, 5, 6, 7.

Macnab, beyond this, descends into the theological thicket. In comparison of the Sales model (1777), with the Stewart model (1789), with the Macnab model (1818), we see that one's moral beliefs tends, more often than not, tend to influence one's definitions of what is alive or not.

6.5 | Reymond-Brucke oath (1842)

In 1842, the game changed, when Emile Reymond, aged 24, and Ernst Brucke, aged 23, signed their famous physico-chemical forces pact in blood, pledging an oath, against the vitalism views of their professor Johannes Muller, to the view that are NO vital forces operating IN organisms, but only the ordinary physico-chemical forces are in operation. The full pact reads as follows:



“Brucke and I pledged a solemn oath to put into effect this. We pledged to put in power this truth: NO ‘other’ forces than the common physical chemical ones are active WITHIN the organism. In those cases which cannot at the time be explained by these forces one has either to find a specific way or form of their action by means of physical mathematical method, or to assume new forces equal in dignity to the **chemical-physical forces** inherent in matter, reducible to the force of attraction and repulsion.”

— Emil Reymond (1842), “Letter to Carl Ludwig”

Later, Carl Ludwig and Hermann Helmholtz also signing the pact, after which the premise of a ‘life force’ existing in physiological processes, was dismissed as baseless. This famous so-called Reymond-Brucke oath, or ‘Helmholtz school oath’, has since gone on to standardize what we now defined as physiology, medicine, neuroscience, and psychology, for the most part.

The key point to take note of here, in respect to this physico-chemical forces oath, is that the Reymond-Brucke oath effectively disabuse life-terminology or vitalism-terminology for processes occurring *within* the organism. The organism as a whole, however, was still considered to be ‘alive’. In other words, the ramifications of the Helmholtz school, only worked to disabuse life or life principles from within the organism, but did not, however, disabused life in total.

We will but note, that in 1874, Helmholtz, in his ‘On the Use and Abuse of the Deductive Method in Physical Science’, asked the so-called ‘pre-abioism’ question, namely whether ‘life’ ever had an origin in the first place:

“If failure attends all our efforts to obtain a generation of organisms from lifeless [inert] matter, it seems to me a thoroughly correct procedure to inquire **whether there has ever been an origination of life** [?], or whether it is not as old as matter, and whether its germs, borne from one world to another, have not been developed wherever they have found a favorable soil [ground].”

— Hermann Helmholtz (1874), “On the Use and Abuse of the Deductive Method in Physical Science”

This certainly is a rabbit hole one will want to let their minds entertain. In the end, one will have to entertain the idea that fermions and bosons, interacting in spacetime, are ‘alive’ or possess ‘life’ in some form or another. It is at this point, that the bend-over-backwards absurdity bells start ringing, and the shit hits the fan, so to say. This general view is what is called panbioism, which is one level below abioism.

The new abioism updated version of the Reymond-Brucke oath, to correct the oversight of the former, reads as follows:

“We pledged to put in power this truth: NO ‘other’ forces than the common physical chemical ones are active within, BETWEEN, and involved IN the movements AND reactions of organisms.”

— Libb Thims (66AE), *New Abioism Blood Oath*

The new physico-chemical abioism oath, in its new universal rephrasement, completely takes on a new light. The premise of people and other organisms being moved solely by physical chemical forces, however, is a very confusing to most? This view, being a new concept, particularly to those who have never thought about things this way, is classified as the Goethean view, as this view was employed by Goethe in his 1809 *Elective Affinities: on The Nature of the Choice of Our Elective Attractions*. While the author, presently, has no one with which to sign the new updated physico-chemical pack, in blood, the message still holds: people and chemicals are moved and operated by the working of physico-chemical forces, and life as concept is obviated.

6.6 | Maxwell: Light = Electromagnetic force (1862)

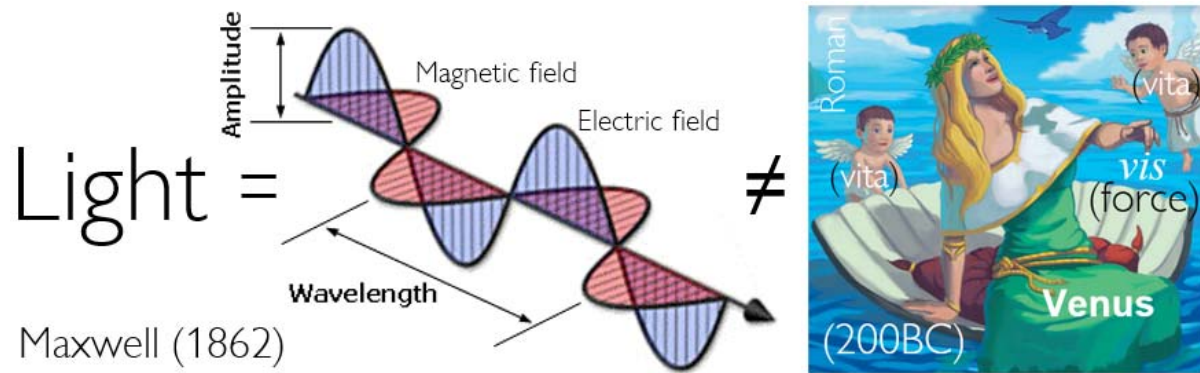
In 1862, James Maxwell, in his “On the Physical Lines of Force”, deduced that light is consists of transverse undulations of electric and magnetic fields:

“The velocity of transverse undulations in our hypothetical medium, calculated from the electromagnetic experiments [1854] of Kohlrausch and Weber, agrees so exactly with the velocity of light calculated from the optical experiments of Fizeau, that we can scarcely avoid the inference that **light consists in the transverse undulations** of the same medium which is the cause of **electric** and **magnetic** [field] phenomena.”

— James Maxwell (1862), “On the Physical Lines of Force” (pg. 22)

This new model of the structure of light, defined as an electromagnetic force, is shown below left. Light, in this new model, is defined as waves that propagate in the form of transverse magnetic fields and electric fields, which combined define the *electromagnetic force*. The details of this new ‘force’ would eventually be re-formulated into that of an ‘exchange force’ that operates to hold atoms together into *chemical bonds* (Hitler, 1929), and also the force that holds people together into *human chemical bonds* (Thims, 2007).

These details, however, need not concern us. The takeaway point is that the force movement behind what was formerly called ‘life’, powered by the ‘vis of Venus’, became renamed as the electro-magnetic force:



This is a 2,000-year improvement over the previous *force* defined as the ‘vis of Venus’ model (200BC), or light defined as the ‘fingers’ of the sun god Aten (1300BC). In the Venus model, children were taught that those born with ‘vis’ were said to have ‘vita’ or life.² To say as little as possible about this *improvement*, we will but cite the opinion of Fenman:

“From a long view of the history of mankind, seen from, say, **ten-thousand-years from now**, there can be little doubt that the most significant event of the 19th century will be judged as Maxwell's discovery of the laws of electrodynamics.”

— Richard Feynman (1963), *Lectures on Physics, Volume Two* (pg. #)

In other words, 10,000-years from the time of Feynman's Caltech *Lectures on Physics*, in the year 10,008 AE (*Anno Elementum*), Maxwell's dynamical theory of the electromagnetic field, will over-surpass trivial details such as the American Civil War, as Feynman comments, or Darwin's theory of evolution (1859), as Boltzmann conjectured (1886), or even presumably Gibbs *On the Equilibrium of Heterogeneous Substances* (1876) [?], as but drops in the bucket. While we cannot fully concur with Feynman, about this prophecy, e.g. as regards Gibbs, we can concur that in the future, people will side with the *force of Maxwell* defining their movement *over* that of the *force of Venus* defining their movement.

In his last year of existence, Maxwell, at the age of 48, his time on earth ending from the same disease his mother ‘died’ from (also at age 48), summarized his finalized thoughts on things as follows:

“We, that is, all the work we've **done**, as ‘waves in ether [spacetime]’, shall for ever **run**.”

— James Maxwell (1878), “A Paradoxical Ode: After Shelley”

Here, he says that he, as a person, is defined, not as a living thing, but as rather as ‘work done by waves in ether’. He also says that this work shall forever run. This pokes at what he called the *equation of continuity*, which he said the geniuses of the future will discover, which will replace the afterlife model. Maxwell also concluded, on his ‘deathbed’ that he or rather his body was not moved by any ‘will’, but rather something greater than himself in him:

“I cannot help thinking about the immediate circumstances which have brought a thing to pass, rather than about any ‘will’ setting them in motion. What is done by what is called my ‘self’ is, I feel, done by **something greater than myself** in me.”

— James Maxwell (1879), “Comment to Fenton Hort when terminally ill”

The ‘will’, in other words, is not the thing that sets humans in motion, but rather the electromagnetic force. Certainly, of course, Maxwell did not say this directly, rather we are stating this directly herein. The mind can only process so much change at once.

In respect to abioism, while only a handful or people, give or take, presently, have officially committed to the opinion that they are NOT alive, 10,000-years from now, this will be a matter of fact, per reason that people in this future period, will no longer cling to Venus-based definitions of their movement.



Synopsis: The force that moves humans is ‘electromagnetic’, so says Maxwell (1862) and Goethe (1796).

References

1. <https://eoht.info/page/Newton+in+Senegal>
2. https://hmoipedia.com/page/Vis_of_Venus
3. <https://eoht.info/page/John+Stewart>

7. Historical: Tyndall (1863) to Lotka (1925)

“The stabilization of our institutions rests ultimately upon our ability to know and to **test assumptions**, and upon a willingness to **revise them without partisanship**, or bitterness, or distress.”

— Thomas Simpson (1922), ‘Paper’, *American Mathematics Monthly*; cited by Alfred Lotka (1925) in *Elements of Physical Biology* (pgs. 377-78)

Chapter point: In 1862, James Maxwell showed that light is force comprised of the electric force and the magnetic force. The following year, John Tyndall, then president of the British Association for the Advancement of Science (BAAS), advanced science, by declaring that *alive* humans cannot derive from *dead* atoms. In 1925, Alfred Lotka, in his *Elements of Physical Biology*, penned an opening chapter entitled ‘Regarding Definitions’, which basically sums up the entire message of the present book, albeit a full century delayed in force and impact. [length: 8-pgs]

In 1862, Maxwell, as summarized in the previous chapter, proved that electric force, magnetic force, and light are united into one force called the electromagnetic force. In the years to follow, the intelligence person could no longer get away with letting their mind define force as divine. The first person to advance this new view was the physicist John Tyndall, Maxwell’s poetry exchanging friend, both of whom began to view their own existence in terms of a wave theory.

7.1 | Tyndall: Vitality (1863) and dead carbon atoms (1874)

In 1863, John Tyndall, in his ‘Vitality’ essay, stimulated by Maxwell’s 1862 derivation of the equations for the electromagnetic force model of light, Maxwell being close friend of his, whom with he exchanged poems, extrapolated or rather pressed this new Maxwellian force model of light logic to the question of vitalism and vitality. Specifically, Tyndall, in his ‘Vitality’ essay, robustly-argued the following:

- God does not exist (albeit this is said between the lines)
- There is NO ‘creative energy’ whatsoever in organisms
- What is called ‘vital energy’ is an *inorganic force*
- Vital energy can be produced from the impact of ‘dead matter’ (e.g. nebular hypothesis)
- Life is a ‘*wave*, which in no two consecutive moments of its existence is composed of the same particles’.

Tyndall goes on to say that if any of the above seemingly ‘audacious’ points sound or seem ‘startling’, it is only because ‘matter has been defined and maligned by philosophers and theologians’ of the past. The growth of science in the future, he says, will correct all of this.

In 1868, Balfour Stewart and Norman Lockyer, in their ‘The Place of Life in a Universe of Energy’, attempt to explain ‘life’ via energy and materialism, albeit leaving room for god with talk of what they called ‘directive energy’, such as when a man ‘directs’ a bullet with his mind, thus releasing kinetic energy, to thus win the war, and also use the code word ‘infinite’, the word *infinity* being a god codeword. While they don’t actually reach a conclusion in the article, they do leave off with the following concluding point:

“We are thus presented with two hypotheses of the action of life. The first of these is the materialistic hypothesis, which **denies the existence of life as a principle** apart from matter; while the other allows the existence of an independent principle, but assumes its action to take place through the medium of a machine of infinite delicacy, so that by a primordial impulse of less than any assignable amount a finite and visible outcome is produced. These are the two alternatives, and it is not within our province to attempt to decide between them. The **battle must be fought in other pages than ours**, and by other weapons than those which we can produce.”

— Balfour Stewart (1868), ‘The Place of Life in a Universe of Energy’ (co-author: Norman Lockyer) (pg. 100)

In other words, faced with the conservation of energy, as experimentally verified by Joule and others, we are either faced with the following two conclusions:

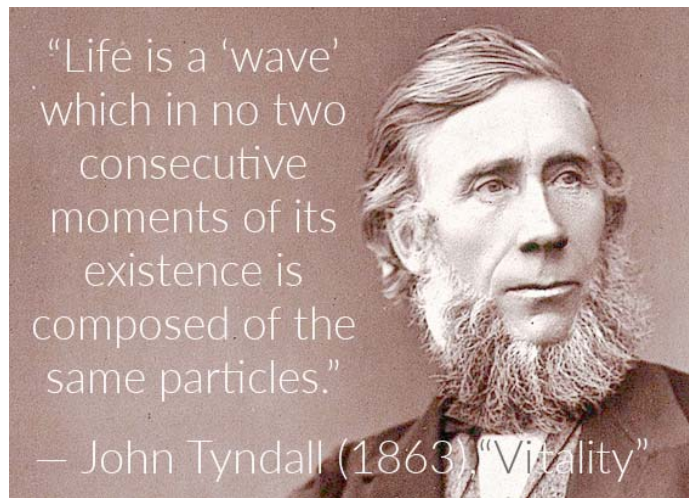
- (a) Deny the existence of life as a principle
- (b) Define a human as a material machine of infinite delicacy, set in motion by a primordial impulse

The second option is but covert god language. This ‘battle’ which they speak of became the Tyndall vs Stewart-Tait debate, which lasted over a decade.¹⁶ It eventually concluded with Balfour Stewart and Peter Tait, in their *Unseen Universe*, concluding that the universe is spiritual and alive, so that they could argue for some type of quasi-afterlife continuity scheme, being a blend of Christianity and slanted science.

In 1874, Tyndall, after consulting with Charles Darwin, with respect to the question of the origin of species, in respect to evolution or arising of sensation, thought, emotion, intelligence, and life, from ‘dead atoms’, as Tyndall called them, gave a famous British Association for the Advancement of Science speech, opening to what he called the modern Lucretian view of things, as follows:

“You are a Lucretian, and from the combination and separation of insensate atoms deduce all terrestrial things, including organic forms and their phenomena. Let me tell you, in the first instance, how far I am prepared to go with you. I admit that you can build crystalline forms out of this play of molecular force; that the diamond, amethyst, and snow-star are truly wonderful structures which are thus produced. I will go further and acknowledge that even a tree or flower might in this way be organized. Nay, if you can show me an animal without sensation, I will concede to you that it also might be put together by the suitable play of molecular force.”

— John Tyndall (1874), “Atheistic Materialism” (pg. 32) BAAS address



Tyndall then jumps, however, to what he calls the difficult part of the modern materialism view:

“Thus far our way is clear; but **now comes my difficulty**. Your atoms are individually without sensation, much more are they without intelligence. May I ask you, then, to try your hand upon this problem?”

Take your **dead hydrogen atoms**, your dead oxygen atoms, your dead carbon atoms, your dead nitrogen atoms, your dead phosphorus atoms, and all the other atoms, dead as grains of shot, of which the brain is formed. Imagine them separate and sensationless, observe them running together and forming all imaginable combinations. This, as a purely mechanical process, is seeable by the mind.

But can you see, or dream, or in any way imagine, how out of that mechanical act, and from these individually dead atoms, sensation, thought, and emotion are to arise?”

— John Tyndall (1874), “Atheistic Materialism” (pg. 32) BAAS address

To answer Tyndall, yes we can, or at least the author can, not only imagine, but explain in full detail, how sensation, thought, and emotion arise from atoms. The online ‘electromagnetic will’ model, gives a fairly good summary of how atoms can join to form small molecules, conceptualized as having rudimentary type of peripheral sensor system, which forces animation change and movement, e.g. bending, walking, or carrying thing.¹⁰ How ‘life’ arises from atoms, or specifically ‘dead’ atoms as Tyndall phrases things, however, is a larger question.



Dead Atom



Real Atom

Tyndall asks: how do dead hydrogen, oxygen, carbon, nitrogen, and phosphorus, aka the CHNOPS base elements, as we now call them, each element ‘dead as grains of shot’, as he says, make, via combinations, sensation, thought, and emotion? Tyndall here, as one of England’s first open public and proud ‘scientific atheist’, is addressing the question of the language of science.

Technically, a ‘dead atom’ translates in Latin as *atomos vis mortua*, aka ‘dead force atom’, or something along these lines. Vis is the goddess force of Venus. When this vis is taken away, in the Roman understanding of things, it becomes *mortua* or ‘dead’, meaning that Mor, the Roman god of death, aka the ‘Grim Reaper’ as he is known in modern times, takes away the vis of Venus, and carries away the dead body, from the battlefield, as the Greek writers used to say. Tyndall, accordingly, without knowing the precise etymology of these terms, as we do now, with Egyptian mythology being decoded better, is saying

that it makes no sense what so ever to continue to use these Greco-Roman theology-based words, such as ‘vitality’ and ‘dead (or mortua) atoms’ in scientific discourse.

Tyndall concludes his talk by mentioning how Herbert Spencer, in recent years, defined ‘life’, and also how Leibniz, in about 1714 attempted to solve the problem by situating life in his monad stylized atoms. He then says that someday the new doctrine of the *conservation of energy* will solving the seeming vexing problem of how ‘vital’ as well as ‘physical’ phenomena can be explained, within the context of Darwin’s evolution theory, under the dominion of the law of casual connection, from dead atoms to living humans.

Tyndall’s various publications, in short, stirred up a lot of back reaction. We will but cite one example, shown below, to elaborate on what exactly Tyndall was digging at, in respect to the absurdity that results when baseless terminology is used to define the growth and movements of plants, animals, and people, made of atoms:

“Shall we say that all vegetable products, although long since uprooted but undecomposed, are possessed of life? Are the cells which compose the well-worn oak-beams of the few remaining wooden walls of Old England still endowed with vitality, and constantly engaged in a struggle for life with the low forms of animated nature?”

— William Canniff (1876), “Correspondence on Tyndall’s Cause of Fermentation” (pg. 742)

In modern terms, Tyndall’s argument translates to the fact that *chemical thermodynamics*, which has subsumed both atomic theory and the conservation of energy into one science, is now the science responsible for reconciling: ‘vital’ phenomena, with physics, scaled back to the hydrogen atom, via Darwinian theory. In other words, one has to upgrade both their mind and their terminology to the new view of things, so that they don’t become a Canniff, talking about whether or not an oak beam of their house is alive or not and still struggling for life.

Correctly, it is not the Canniffs of the world who should take responsibility, but the modern chemical thermodynamicists of the world, whose working minds are required to fix this ongoing conceptual and terminology problem. This, of course, is what we are doing herein, the author being one of the leading chemical thermodynamicists of the world. It takes more than one chemical thermodynamicist, however, to bring about a change. Tyndall also says that it is now time for the Bible to take a back seat, and to let science drive the car, or rather the ‘Bible bus’, as it has historically been called.¹⁴

7.2 | Pearson: Dead mechanisms! (1885)

In 1885, Karl Pearson, in his ‘Matter and Soul’ lecture, a physicalist reaction against English statesman William Gladstone’s creationism article, gives us the following very telling argument, wherein he puts the ‘extrapolate down’ argument in the form of an Aunt Sally, in regards to consciousness and life, as a mechanism, supposedly, arisen from ‘dead mechanism’:

“But I fancy one of you objecting: This may be very true, but it neglects the **fundamental distinction between matter and life**, namely the phenomenon of consciousness. Very good, my dear sir, let us endeavour to analyze this phenomenon of consciousness, and see whether denying consciousness to matter may not be just as dogmatic as asserting that matter possesses it. Now let me ask you a question: Do you think I am a conscious being, and if so, why? The only answer you can give to that question will be agnostic. You really do not know whether I am conscious or not. Each individual ‘ego’ can assert of itself that it is conscious, but to assert that that group of sensations which you term ‘me’ is conscious, is an assumption, however reasonable it may appear.

For **you, sir, I** and the rest of the external world **are automata, pure bits of mechanism**; it may be practically advisable for you to endow us with consciousness, but how can you prove it? You will reply: I see spontaneous actions on your part, similar to those I can produce myself. I am compelled by analogy to endow you with will and consciousness. Good! you argue by analogy that I have consciousness; you will doubtless grant it to the animal world; now **you cannot break the chain of analogy** anywhere till you have descended through the whole plant world to the simple cell, there you find apparently spontaneous motion and argue ‘life’ — consciousness.”

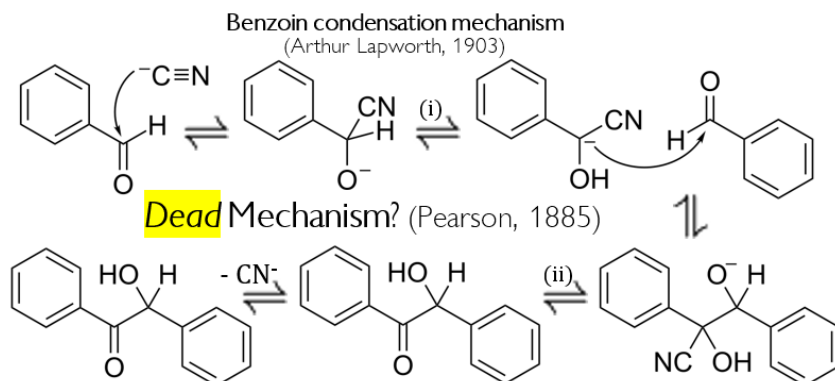
Pearson here says that because we cannot break the chain of logic in our argument than either ‘life is mechanism’ or either mechanisms at the atomic level are dead. To put this into context, the following is the organic chemistry mechanism for benzoin condensation worked out by Arthur Lapworth in 1903.

Pearson concludes by saying that someday, as the human intellect develops, centuries from now, i.e. in the year 130AE (2085AD) or 230AE (2185AD) as he envisioned, someone will figure out whether what we call ‘life’ is pure mechanism, such as shown above, or matter is conscious, both of which he deems as equally absurd or nonsense conclusions; specifically:

“Now I carry your argument a step further and tell you that I find in the ultimate atom of matter most complex phases of motion and capacity for influencing the motion of others. All these things are to me inexplicable. They appear ‘spontaneous’ motion; ergo by analogy, dear sir, matter is conscious. Now the only thing, which I am certain is conscious, is my own individual ego; I find nothing, however, more **absurd in the assertion that matter is conscious**, than in the assertion that the simple cell is conscious, or working upwards that you are conscious. They are all at present unproven assertions. That ‘matter is conscious’ is no more nonsense than that ‘**life is mechanism**’; possibly someday, as the human intellect [?] develops with the centuries, we may be able to show that one or other of these statements is true, or more probably that both are true.”

Here we see some powerful logic. Pearson leaves us with two seeming equal absurdities to grapple with:

- Matter is conscious?
- Life is mechanism?



In this decade, given the limited state of physico-chemical molecular science, physiology, neurology, and evolutionary psychology, which only came into fruition, in the century to follow, we certain feel for Pearson and his attempt to grapple with this vexing problem. It is no wonder that Einstein put Pearson as number one author on his Olympia Academy reading list.

Pearson leaves us with the conjecture that in the future, we will likely find both states, a and b, to be true, namely that matter is conscious and life is mechanism? Herein, we will not be dealing with the issue of whether or not ‘matter is conscious’, but only with option b, namely whether or not ‘life’ is but *mechanism*? The answer to this question is, unequivocally, yes!

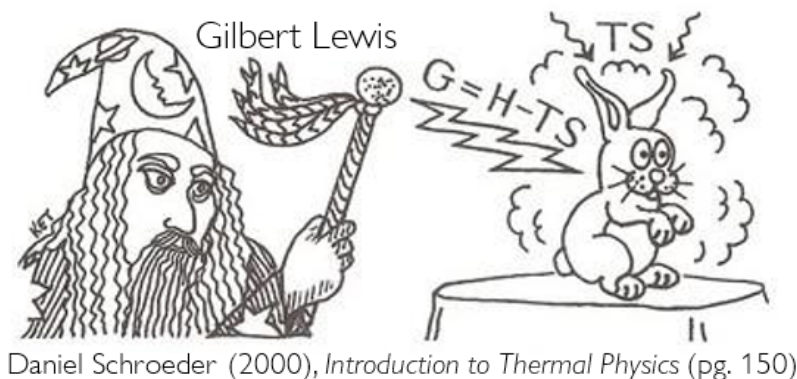
Life indeed is mechanism. All one has to do is read David Buss’ *Evolution of Desire* (1994), compare what one reads described here, and translate this into the mechanism of organic chemical reactions, described and quantified physical chemistry, and then compare both of these to Holbach’s geometrician (1770), who can ‘see’ the entire universal mechanism before their eyes. Granted, to note, this view is what is called *universal genius level* view, and not easy for the average person to see. Specifically, Holbach, in his §4: Of the Laws of Motion common to all the Beings of Nature—of Attraction—of Inert Force—of Necessity, of his *System of Nature*, gives us the following intellectual pacifier:

“Two examples will serve to throw the principle here laid down, into light—one shall be taken from **physics**, the other from **morals**. In a whirlwind of dust, raised by elemental force, confused as it appears to our eyes, in the most frightful tempest excited by contrary winds, when the waves roll high as mountains, there is NOT a single particle of dust, or drop of water, that has been placed by ‘chance’, that has not a cause for occupying the place where it is found; that does not, in the most rigorous sense of the word, act after the manner in which it ought to act; that is, according to its own peculiar essence, and that of the beings from whom it receives this communicated force.

A geometrician, who knew exactly knew the different **energies acting in each case**, with the properties of the particles moved, could demonstrate that after the causes given, each particle acted precisely as it ought to act, and that it could not have acted otherwise than it did.”

— Baron Holbach (1770), *System of Nature* (§4, pg. #)

The ‘geometrician’, referred to here by Holbach, who was able to know the different energies acting in each case, and able to predict how particles would move and react with each other, was Gilbert Lewis:



“We have obtained values obtained for the increase in free energy [energies], at 25°C, in the **formation of a substance**, at unit activity, from the elements in their standard reference states.”

— Gilbert Lewis (1914), “The Free Energy of Oxygen, Hydrogen, and the Oxides of Hydrogen”

At this point in human history, we began to have a basis on which to understand reaction mechanism and formation of substances or species, energetically. We have thus solved Holbach’s human action and reaction prediction model:

“In those terrible convulsions that sometimes agitate political societies, shake their foundations, and frequently produce the overthrow of an empire; there is not a single action, a single word, a single thought, a single will, a single passion in the agents, whether they act as destroyers, or as victims, that is not the necessary result of the causes operating; that does not act, as, of necessity, it must act, from the peculiar essence of the beings who give the impulse, and that of the agents who receive it, according to the situation these agents fill in the moral whirlwind. This could be evidently **proved by an understanding capacitated to rate all the action and re-action**, of the minds and bodies of those who contributed to the revolution.”

— Baron Holbach (1770), *System of Nature* (§4, pg. #)

Note that Holbach does not employ the term ‘life’ once in his description of the universal mechanism of society and the universe. The key conjecture to take note of here, is Holbach’s statement that if the geometrician knew the different ‘energies’ acting in each case, they could thereby predict the reaction that would follow. The first incarnation of Holbach’s geometrician, to say again, was Gilbert Lewis. In the Lewis model, ‘life’ as a concept is no longer needed.

Lewis, in his *Thermodynamics: and the Free Energies of Chemical Substances* (1923), which is a textbook summary of his previous two-decades of formation energy calculations, was the one who pioneered the model of measuring the formation energies of every ‘thing’ on or near the surface of the earth, based on the platform of the spending two decades of measuring the formation energies of the smaller chemical substances, and extrapolating upwards from there to so-called ‘organic chemistry’.

Norman Dolloff (1975) was the first to extrapolate this logic up to the formation energies involved in the synthesis of animals and humans. In the diagram shown above, we see Daniel Schroeder illustrating how we can use Lewis method to calculate the formation energy of a rabbit. Here, according to Schroeder, ‘god’ has been replaced by Gilbert Lewis, and ‘life’ has been replaced by chemical synthesis. We no longer need the outdated mythical ‘god created animal life on the fifth day’ model of things.

In translation, Holbach to Lewis to Dolloff, if the geometrician knew the different formation energies, commonly known as ‘Gibbs energies’ in modern terms, acting in each case, the geometrician would then be able to predict how particles, molecules, animals, and humans moved, acting precisely as they were determined to act, even in those actions involved in reproduction or the formation of a new species. When, accordingly, this is all mapped out in mechanism and reaction terms, the term ‘life’ not only drops out, not only becomes ‘objectionable nonsense’, using Einstein’s phrase, but becomes non-acceptable language.

7.3 | Bray: Living universe? (1910)

In 1910, Henry Bray, in his *The Living Universe*, building on Goethe, and others, attempted what can be defined as the last intellectually semi-cogent attempt to reconcile the life vs nonlife problem, in respect to rise of the periodic table, i.e. he cites that 70 elements were known to exist in his day, and growth of knowledge about physics and chemistry.

In respect to Alfred Binet’s 1889 psychic life and sexual selection nature of microorganisms discussions, together with Thomas Huxley’s 1870s deep sea bottom microorganisms speculations, Bray says the following.

“Psychic phenomena manifesting themselves in these [protozoa-like] momentary existences, these mere points of organisms, it does not appear unscientific to hold that **potential life, and all the phenomena attending it**, from the government of an Oklahoma village to that of the British empire, **exists in the atom** itself, even in the atom of hydrogen or helium.”

— Henry Bray (1910), *The Living Universe* (§8: Atomic and Molecular Worlds III, pg. 181-82)

Bray, in short, alludes to the premise or idea that the hydrogen atom is alive in some way or sense. While he does not say this conclusively, he does leave us with the following honest opinion:

“On this ground very many atomic phenomena, not otherwise easily explained, are capable of ready solution. And while we may not have conclusive scientific reason for regarding atoms as living substances, it is more certain still that **we are unable to say where life begins in the forces of nature.**”

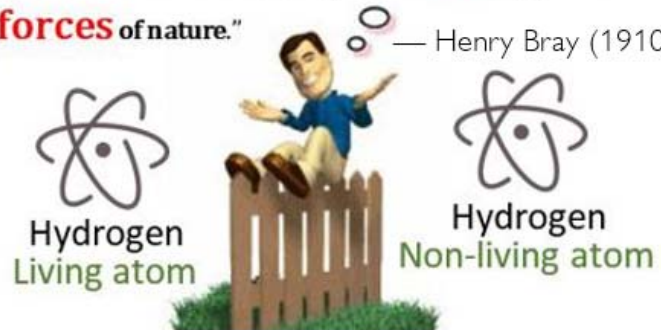
— Henry Bray (1910), *The Living Universe* (§8: Atomic and Molecular Worlds III, pg. 182)

Where indeed does ‘life’ begin in the forces of nature? Does potential life exist in the hydrogen atom? In modern term, is life to be found in one proton encircled by one electron?

Thims, in the early 2000s, began to employ the query: ‘do you believe that the hydrogen atom is alive?’ as a first question, whenever beginning to engage into abioism dialogue with anyone? This was one of the first questions, in fact, that Thims asked Alfred Rogers, curator of the *LifeDoesNotExist.com* website, who we will meet shortly.

“While we may not have conclusive scientific reason for regarding **atoms as living substances**, it is more certain still that **we are unable to say where life begins in the forces of nature.**”

— Henry Bray (1910)



7.4 | Tesla: No thing is endowed with life! (1915)

In 1915, Nikola Tesla, in his ‘How Cosmic Forces Shape Our Destinies’ article, published in the *New York American*, said the following:

“Every living being is an ‘engine’ geared to the wheelwork of the universe.”

Each person, according to Tesla, is a heat engine, geared to the ‘work’ or working mechanisms of the universe. The mechanism Tesla had in mind being a ‘wheel’ of some sort? Next:

“Though seemingly affected only by its immediate surrounding, the sphere of external influence extends to infinite distance. There is no constellation or nebula, no sun or planet, in all the depths of limitless space, no passing wanderer of the starry heavens, that does not exercise some control over its destiny — not in the vague and delusive sense of astrology, but in the **rigid and positive meaning of physical science.**”

The destiny of humans, according to Tesla, is affected, not only by their immediate circumstances, but by a sphere of ‘external’ influence that extends throughout the universe, which can only be defined by the rigid and positive meaning of physical science. Next:

“More than this can be said. There is **no ‘thing’ endowed with life** — from man, who is enslaving the elements, to the humblest creature — in all this world that does not sway it in turn. Whenever **action is born from force**, though it be infinitesimal, the cosmic balance is upset and universal motion result.”

Here, we see ripe discernment, of prime excellence! No thing is endowed with life, indeed. What we formerly referred to as ‘life’, according to Tesla, has been redefined as ‘motion resulting from action born from force’. Next, we see Spencer’s definition of life, cited again, but which Tesla says is not broad enough:

“Herbert Spencer has interpreted life as a continuous adjustment to the environment, a definition of this inconceivably complex manifestation quite in accord with advanced scientific thought, but, perhaps, **not broad enough** to express our present views. With each step forward in the investigation of its laws and mysteries our conceptions of nature and its phases have been gaining in depth and breadth.

In the early stages of intellectual development man was conscious of but a small part of the macrocosm. He knew nothing of the wonders of the microscopic world, of the molecules composing it, of the atoms making up the molecules and of the dwindlingly small world of electrons within the atoms. To him life was synonymous with voluntary motion and action. A plant did not suggest to him what it does to us — that it lives and ‘feels’, fights for its existence, that it suffers and enjoys. Not only have we found this to be true, but we have ascertained that even matter called inorganic, believed to be dead, responds to irritants and gives unmistakable evidence of the presence of a living principle within.”

Here we see more intellectual discernment. Plants feel, suffer, and enjoy, says Tesla. Numerous studies, including those by Myth Busters, have indicated that playing music for plants, in particularly classical music and heavy metal, really does promote faster, healthier growth, as compared to plants with no music or not communication. Next:

“Thus, everything that exists, organic or inorganic, animated or inert, is susceptible to stimulus from the outside. There is **no gap between, no break of continuity**, no special and distinguishing ‘vital’ agent. The same law governs all matter, all the universe is alive. The momentous question of Spencer: ‘what is it that causes inorganic matter to run into organic forms!’, has been answered. It is the sun's heat and light. Wherever they are there is life. Only in the boundless wastes of interstellar space, in the eternal darkness and cold, is animation suspended, and, possibly, at the temperature of absolute zero all matter may die.”

The sun's heat and light causes inorganic matter to run into organic matter, so says Tesla. This is basically what Lucretius said earlier, with the upgrade of the covet that ‘no thing is endowed with life, but only action born from force exists.’ Tesla, of course, does not say outright that ‘life does not exist’, as this statement would not come for another century, but we see him wading into warm water.

7.5 | Lotka: Scientific jabberwocky (1925)

In 1925, Alfred Lotka, in his *Elements of Physical Biology*, devoted his opening chapter, entitled ‘Regarding Definitions’, to so-called defined terms within the newly forming field of biology explained by physics. The following is the first important note, Lotka makes:

“It should be observed that **‘nothing has been said of life’** in describing the system. The system may or may not comprise living organisms, the argument remains the same. This suggests that a term, such as life, so vague that it defies definition, is perhaps not likely to play an important part in any exact argument; we may, indeed, find it wholly unnecessary. It may, in time, in the literature of exact science, meet with the fate of the word cause: a term of rare and at best incidental occurrence in records of exact investigations.”

— Alfred Lotka (1925), *Elements of Physical Biology* (§1: Regarding Definitions, pg. 15)

Lotka tells us here that the term ‘life’ is NOT needed, as a working term, to fully describe the ‘system’, be it an amoeba moving towards food, or gazelle running from a cheetah, chemically, physically, or thermodynamically. The following table shows the ranking of Lotka's book, in respect to the top abioism-themed precursor books:

# ↕	Name ↕	Year ↕	Person ↕
1	<i>Man on His Nature</i>	1938	Charles Sherrington
2	<i>Molecules and Men</i>	1966	Francis Crick
3	<i>Elements of Physical Biology</i> (§1: Regarding Definitions)	1925	Alfred Lotka
4	<i>Grammar of Science</i>	1892	Karl Pearson

A full coverage of Lotka's discourse, particularly his ‘Regarding Definitions’ chapter, the key points of which having been previously outlined online, would lead us beyond a simple condensed summary of the main points of abioism, historically and presently.¹ The key point to note, here, is that this was the first time in history that abioism, or rather the the history of attempts to grapple with issues associated with attempting to define the prefix ‘bio’ (Greek) or *life* (Latin-German) via physics, became a subject that required a full opening chapter to address.

We will but cited Lotka speaking about how the hunt to define the term ‘life’ is but a hunt for the Jabberwock, and that in time, where thoughts are missing, the correct words and terms will appear to replace the jabberwocky terms:

“We have not always been equally wise. Sometimes we have tried to invert the method; we have found or made a name, and then gaily set forth on an expedition to discover the thing that should answer to that name; we have **hunted the Jabberwock**. Forgetful of the wisdom of Mephistopheles:

“Where thoughts are missing, a ‘word’ appears at the right time.”

— Faust (c.1750), *Source*

we have given way to an inherent ‘bias’ of the human , mind described in characteristic fashion by H.G. Wells:

“When we have a ‘name’, we are predisposed and sometimes it is a **very vicious predisposition to imagine forthwith something answering to the name**. If I say ‘Wodget’ or ‘Crump’, you find yourself passing over the fact that these are nothings, and trying to think what sort of a thing a Wodget or a Crump may be” You find yourself insensibly, by subtle associations of sound and ideas, giving these blank terms attributes.”

— Herbert Wells (1908), *The First and the Last Things* (pgs. 32)

So, the biologist of the past generation, finding in his native vocabulary the words ‘animal’ and ‘plant’, forthwith proceeded in an effort to establish precise distinctions between animals and plants, never giving any thought, it would seem, to the fact that these names had already been parceled out generations ago, by ‘popular’ consent, by unscientific persons without any regard to fine distinctions.”

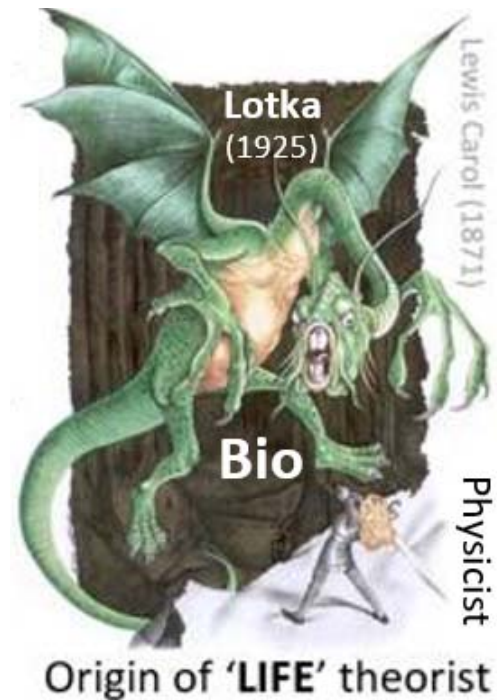
Wells (1908), in his advice, as advocated by Lotka (1925), passes along to us sound wisdom. Many words, in our mind, have no basis, yet we are predisposed, often times very viciously, to defend these words, so to find an answer to the name. Here, we would be well-advised to consult the opening pages of Otto Guericke’s *Experiments on the Vacuum of Space*, wherein, following citation to Galileo, who says that a ‘thousand Demosthenes and a thousand Aristotles can be laid prostrate by a single main, of mediocre talent, who has seized on a better way to find truth’, tells us the following:

“Theories which are demonstrated by experiment and visual perception must be preferred to those derived from reasoning, however probable and plausible, for many things seem true in speculation and discussion, which in actuality defy reality. Those who rely upon their conjectures and hypotheses alone, repudiating ‘experimentation’, can make no conclusive statements about the nature of the world; for when man does not rely upon experimentation, he often wanders so far from truth as the sun which we see is distant from the earth.”

— Otto Guericke (1663), *New Magdeburg Experiments on the Vacuum of Space* (pgs. xvii-xviii)

The name ‘life’, in other words, is a term that seems true in speculation and discussion, but in actuality defies reality. A person is thus advised, so says Guericke, to base their ‘names’ on theories which are demonstrated by experiment and visual perceptions, so that we do not get laid prostrate like a thousand Aristotles. We do not want to waste our time, as Lotka advises us not to do, ‘hunting the Jabberwock’, i.e. invented scientific word nonsense.

Synopsis: Read: Alfred Lotka’s 1925 chapter ‘Regarding Definitions’, in respect to why we can no longer defined ‘bio’ by physics, in modern science.



References

1. <https://eohht.info/page/Regarding+Definitions>

8. Historical: Sherrington (1938) to Walker (2015)

“The *animate* and the *inanimate* are in their ultimate parts alike and fundamentally so in the principle of their construction.”

— Charles Sherrington (1938), *Man On His Nature* (pg. 122)

Chapter point: When Charles Sherrington published his *Man on His Nature* (1938), abioism became cogent. When Francis Crick, in his *Of Molecules and Men* (1966), declared ‘we should abandon the world alive’, abioism crossed the line in the sand of intellectual integrity, between the imaginary world and the real world. Others, in the decades to follow, less daring than Crick, have independently progress on this past the line in the sand position. [length: 10-pgs]

The period of the 1930s, when Charles Sherrington gave his *Man on His Nature* (1938) lecture, to the 1960s, when Crick got involved in the neo-vitalism debates, eventually declaring, in his *Of Molecules and Men* (1966), that we would be well-advised to abandon the word alive, is when abioism hit the main steam of the intellectual world. Prior to Sherrington, people like Lotka could only state that the term life does not make sense, according to physics and chemistry. After Sherrington, however, it was game over. The abioist who reads Sherrington’s *Man on His Nature*, has no choice but move forward into explicit the explicit statement that not only is life not recognized, but that life does not exist, and therefore the term life and alive should be abandoned.

8.1 | Sherrington: Physics and chemistry do not know the word alive! (1938)

In 1938, Charles Sherrington, in his *Man on His Nature* book, derived from his 1937-38 University of Edinburgh Gifford Lectures, building on Jean Fernal, as his main intellectual anchor, and Descartes, in some sense, gave us the most mind-ripping, through-going treatise on abioism, to date, without actually saying directly that life does not exist. To begin with, Sherrington informs us that ‘life’, in his mind, has been deleted as a scientific category:

“Aristotle noted of life that its lower limit defies demarcation. The living and non-living, he thought, merge one in the other gradually. Today the very distinction between them is convention. That **deletes ‘life’ as a scientific category**; or, if you will, carries it down to embrace the atom. The **vanishing point of life is lost.**”

— Charles Sherrington (1938), *Man on His Nature* (pg. 209)

Alternatively, known that there is no life / nonlife divide, the modern intellect thus has to carry the concept of life down to the hydrogen atom. This is where intellectual idiocy hits the fan. The main point of Sherrington’s lecture-turned-book, are firstly that the terms: life, alive, and death are terms that are not understandable by physics and chemistry:

“Both the scientific and the everyday elbow are one and the same system of electrical charges. It is of no use asking physics and chemistry whether it is ‘**alive**’. They do not understand the word. When physics and chemistry have entered on their description of the perceptible, ‘**life**’ disappears from the scene, and consequently ‘**death**’. Both are anthropisms.”

— Charles Sherrington (1938), *Man on His Nature* (pgs. 236, 260)

The terms: life, alive, and death are ‘anthropisms’ as he says. Secondly, it is the desire of science to get rid of anthropisms in general and these three anthropisms (life, alive, and death) first and foremost:

“Science **desires to rid itself of ‘anthropisms’ as unnecessary.**”

— Charles Sherrington (1938), *Man on His Nature* (pg. 260)

Note, here, at this point in human history, that both Lotka (1925) and Sherrington (1938) have concurred that ‘life’ is an unnecessary term.¹ To elaborate on this, a near-century has now passed since this concurred view, that life is an unnecessary term, and it has been found, chemical thermodynamically, that one can explain the entire origin, existence, movements, and goings-ons of humans, without the use of the term alive or life. If there were a way to simply sent out this Lotka-Sherrington memo to the world’s scientific community, and everybody absorbed the implications of this memo, then we could move on to better things. Alas, however, this issue seems to be more involved than simply sending out a memo.

The reader is encouraged to read Sherrington’s *Man on His Nature*, cover-to-cover, after reading this book. We could likely fill over a 100+ pages of discussion, if we were to digress fully into Sherrington’s

Man on His Nature. This, however, is not our aim, which is to give a quick booklet-size taste or summary of abioism. The following, to quickly summarize, is Sherrington's abstract:

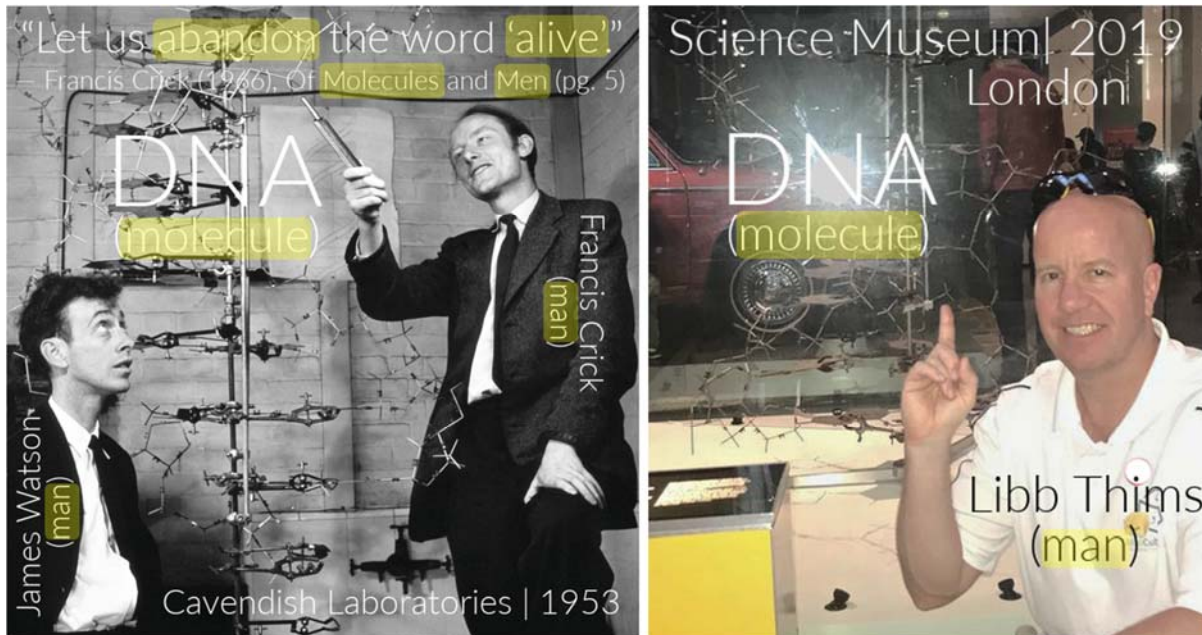
“Our sixteenth-century Fernel viewed the body as a tenement for faculties. One faculty was that which actuated the various bodily movements. Then came Descartes with his robot, a mechanism actuating itself. Such too had been Descartes' thought with respect to the motions of the macrocosm. For Kepler still, a century later than Fernel, each planet was ridden by an angel. Then later with the 'reign of law' that guidance became a 'force', e.g. gravitational. Today that 'force' has in turn disappeared. There remains a curvature of space. The human mind looking at nature has had **to dehumanize its point of view**—it has, using Samuel Alexander's word, **to 'deanthropize' itself**. It has to dispense with 'causation', which is regarded as an anthropism, but is yet a final cause. It is more faithful to William of Occam. In the middle ages, and after them with Fernel, as with Aristotle before, there was the **difficulty of the animate and the inanimate and finding of the boundary between them**. Today's scheme makes plain why that difficulty was, and dissolves it. **There is no boundary.**”

— Charles Sherrington (1938), *Man on His Nature* (deanthropize, pg. 169; boundary, pg. 242)

Sherrington's entire book should be consulted in full. Sherrington is the abioist par excellence. While he does not conclude with the statement that life does not exist, his entire lecture-turned-book pacifies the mind, like no other. It is very a very soothing summary as to why life is a defunct concept, scientifically, as per physiology and neuroscience see things.

8.2 | Crick: Let us abandon the word alive! (1966)

In 1953, Francis Crick, together with James Watson, discovered the molecular structure of the DNA, the molecule responsible for passing along genetic coding. Crick and Watson are shown below, left, at Cavendish laboratories, next to a physical model of the double helix structure of DNA. Crick is shown pointing to one of the atoms (C, H, N, O, or P) in the spiral structure. Below right, we see the author (Thims) pointing to the same DNA structure model, on display in the Science Museum, London:

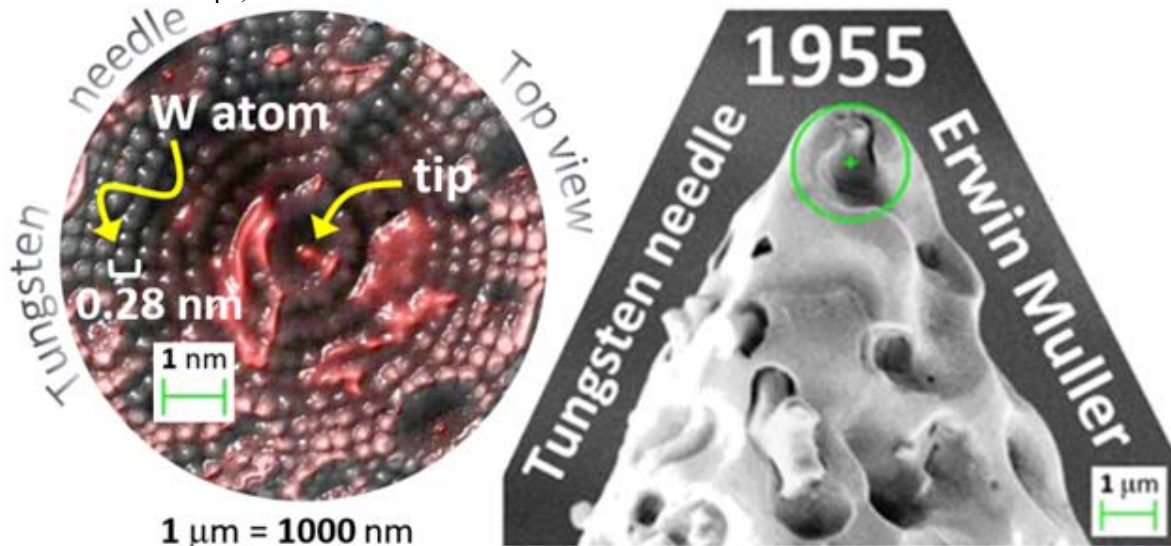


In 1955, Erwin Muller, in the Osmond Laboratory, of Penn State, saw tungsten atoms, each dot shown below is an atom, at the tip of a needle, with his own eyes, using his newly-invented field ion microscope:



At this point in history, to summarize, within the course of two years, we not only discovered the atomic structure of the genetic code, but also saw individual atoms for the first time!

This publication, as noted on the title page, is the first published book using the newly devised *anno elementum* or atomic dating system, wherein the number of orbits of the earth about the sun are counted from the zero year of when humans were first able to see atoms. This atoms first seen year occurred in 1955 (zero year), when on Oct 11th, Erwin Muller, at Penn State University, on Oct 11th, using his newly-invented field ion microscope, saw tungsten elements with his own eyes. A visual of what Muller saw, through the lens of his microscope, is shown below:



Each dot shown is an individual atom (or tungsten element). This was the first-time atoms were seen by a human. After seeing these atoms, a problem that had been working towards for some years, Muller walked out of his lab, through a crowd of his graduate students, talking to himself, saying excitedly in German:

“This is it! Atoms, yes, atoms!”

— Erwin Muller (1955), verbal comments after ‘seeing’ an atom, Oct 11

This event, of an element-based species seeing one of the elements or atoms of its own composition, is what we will define, for terrestrial species or extraterrestrial species, as an elemental species ‘enlightenment point’, defining years before this as the pre-enlightenment era, and years after as the enlightenment era. This is a universal definition.

It is important point to keep in mind, is that Muller, on 11 Oct 1955, did NOT walk out of his lab saying something like: ‘This is it! Living atoms, yes, living atoms!’ or ‘I’ve seen them, they are alive!’ He simply saw the particles, hypothesized about 2,405-years ago by Leucippus, and was content. These dots, as we see with our own eyes above, which are but proton, neutron, and electron bound states, are not living things. Once the mind becomes cognizant of this new information, it takes about four to five decades for the mind to realize that they themselves, made of these non-living elements, are likewise non-living species.

With this new knowledge at our disposal, the human mind having thus expanded, the question of what, exactly, the difference is between a *molecule*, such as DNA, and a *man*, such as Watson, Crick, or Thims, is

in terms of the worlds ‘life’ and ‘alive’ began to become a heated question. It was Crick, in fact, who first began to tackle this vexing question, on the new platform of DNA structurally understood and atoms *seen* in detail. We can see with our own eyes, in the above images, that there is nothing that is so-called *living* in either of these models. We see atoms ordered into very specific geometrical arrangements. Some of these geometrical arrangements, such as Watson, Crick, or Thims, have the property of animation. All four, DNA, Watson, Crick, and Thims, animate or not, are each CHNOP-based atomic structures. To call one alive and another not-alive, becomes a cases of *anthropism*, which, as Sherrington says, is a thing science desires to rid itself of. Humans, on average, however, typically like to promote anthropism.

Subsequently, in the decade to follow, owing to the human natural tendency to promote anthropism, the discovery of DNA quickly began to be touted as the ‘secret of life’ or master molecule of life, such as shown below:

“These **master molecules of life** have a long chemical name, deoxyribonucleic acid, or DNA. The molecule can make exact copies of itself and contains all of our ancestry. It is the repository of chemical codes that specify the structures and functions of organisms.”

— Donald Cooley (1963), *The Science Book of Modern Medicines* (pg. 33)

Also, beyond simple semantics, such as calling DNA the ‘life molecule’, the premise of DNA being the carrier of genetic information introduced what came to be called a sort of *quasi-vitalism* into science, wherein reductionism stopped at the level of DNA, and the physics and chemistry below this level were avoided. The following is one take on this:

“The ‘central dogma’ of molecular biology, which states that the information upon which the chemistry of life depends is provided by the genetic material DNA. But the refusal of biologists to regress further than this point and to confront the question as to where the information contained in DNA came from in the first place has, according to Stephen Black [1972], reintroduced a **quasi-vitalism** into biology.”

— Michael Foley (1990), *Laws, Men and Machines* (pg. 84)

Crick, however, as an atheist and a reductionist, and having now become the lead spokesperson for DNA, did not see it this way. He saw statements such as above, which attempted to sell DNA as the new ‘life molecule’ or the word of god in information, as but an attempt to force *vitalism* into genetics and chemistry.

In Feb and Mar 1966, Crick, to rebut the growing surge of what *neo-vitalism*, as he called it, gave a series of lectures, the University of Washington, entitled ‘Is Vitalism Dead?’. These lectures were then edited and published as the book *Of Molecules to Men*.

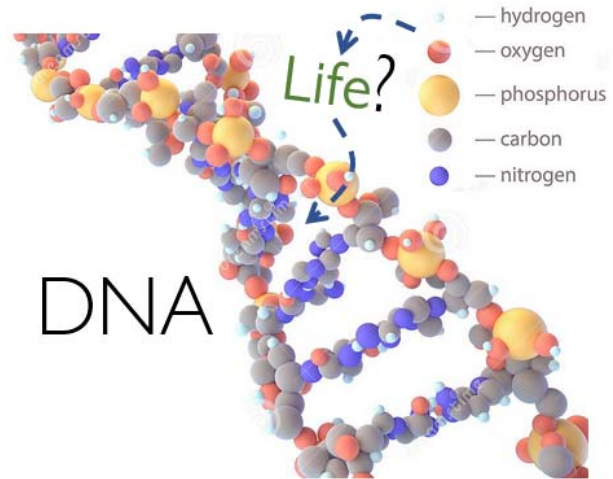
In this book, Crick says that his aim is not to give a history of vitalism, which would amount to a lengthy coverage of writers such as Hand Driesch, Henri Bergson, Pierre Teilhard, and Michael Polanyi. Crick says that he is ‘out of sympathy’ with all of these writers, however ‘fashionable they may be in literary circles’, as he says. Crick classifies Bergson and Teilhard as ‘metaphysical vitalists’ and Driesch and Polanyi as ‘scientific vitalists’.

Crick’s focus of attack, in his lecture, is directed at *scientific vitalism*. Polanyi seems to have been his main target. Prior to this lecture, Polanyi had argued somewhere that the steam engine cannot be totally described in terms of physics and chemistry. He also said that an *enzyme molecule*, which according to Crick, can be thought of as a ‘machine at the molecular level’, cannot be described in terms of physics and chemistry.

Crick, however, objected to this. He said that Polanyi’s position is ‘ridiculous’ and that it runs into ‘logical and philosophical difficulties of all kinds’. Moreover, Crick indirectly asserted that Polanyi was objecting, to things such as the description of an enzyme molecule in physics and chemistry terms, not from a scientific point of view, but rather was objecting from a religious point of view:

“On the subject of ‘motivation’, in respect to vitalism, it would be of interest for somebody to inquire into the religious faith of these various writers? I have a strong suspicion, that **it is the Christians, and the Catholics in particular who write as vitalists** and it is the agnostics and atheist who are the anti-vitalists. Whether this is widely true, I must confess I do not know.”

— Francis Crick (1966), *Of Molecules and Men* (pgs. 25-27)



This, indeed, was the case with Polanyi. Polanyi was born to Jewish parents in Hungary, but in 1919 converted to Christianity, the faith of his wife Magda Polanyi. As to what exactly Polanyi was objecting to, at this point, we cannot fully say, but we can classify them as closet scientific theology. Some of his views, presumably, are to be found in his 1960 book *Beyond Nihilism*.

Polanyi, educationally, obtained his MD in 1914 and then his PhD in 1916 with a dissertation on atomic adsorption, meaning the adhesion of atoms, ions, and molecules to a surface, then worked as a physical chemistry professor at several universities. His adsorption work, supposedly, was encouraged by Einstein, a closet scientific atheist, and he was close friends with John Neumann, another closet scientific theologian. Hence, subsequently, what Polanyi was objecting to, would digress us into, presumably, a prolonged discourse.

In Aug 1967, Polanyi, the year after Crick's anti-vitalism lecture, published a series of articles, wherein he attempted to refute Crick. The first of which, entitled 'Life Transcending Physics and Chemistry', was published in the journal of *Chemical and Engineering News*, as its cover-story; the abstract of which is as follows:

"This article deals with attempts to reduce biology to physics and chemistry, and life to the objects studied by objectivist and positivist. The discovery by Watson and Crick of the genetic function of deoxyribonucleic acid (DNA), combined with the evidence these scientists provided for the *self*-duplication of DNA, is widely held to prove that living beings can be interpreted, at least in principle, by the laws of physics and Chemistry. Commoner disregards the fact that, viewed by his own criteria for the reducibility of biological processes, his challenge of the self-duplication of DNA presents no difficulty to the reduction of genetics to physics and chemistry. The laws of physics are given in terms of differential equations which determine a definite system only within a set of fixed conditions. **Physics is dumb** without the '**gift**' of boundary conditions, forming its frame; and this frame is not determined by the laws of physics."

— Michael Polanyi (1967), "Life Transcending Physics and Chemistry", Aug 21

The key term of interest in this abstract is the word 'gift'. This is code for 'god speak' or *god theory*. Boundary conditions, according to Polanyi, are a gift from god. Idiocy compounded, to say the least. Granted, to clarify, we are not trying to say that Polanyi, as a person, was an idiot. Correctly, he probably ranks at the top 3000 minds of all time level. Every 'body', in short, has a certain amount of idiocy in them. The real question is how much of this idiocy is a person willing to vent in public. Polanyi's vents, from some reason, were full-open?

On 20 Dec 1967, Polanyi, in his "Life's Irreducible Structure", a talk given at the New York meeting of the American Association for the Advancement of Science (AAAS), argued that 'live mechanisms and information in DNA are *boundary* conditions with a sequence of boundaries above them'. God, although Polanyi does not directly employ this term, has become a 'boundary condition', above other boundary conditions, which put 'information', aka the 'word of god', into DNA, which make for 'live mechanisms'.

At this point, we have descended into complete idiocy. If Polanyi would just state openly and frankly as to what, exactly, he is objecting to, we would not have to deal with this so-called *covert* language.

Nihilism, to clarify, is not the answer. Open, public, and frank discourse, however, is what is needed to remedy the problem or at least to move towards the solution. Employing *patch words* to attempt to say what we really mean is not a good approach.

In reality, a person, to clarify, can easily spend a full decade, in research, attempting to understand what so-called *boundary conditions* mean, chemical thermodynamically. Why should a person waste a decade of their existence because Polanyi wants to believe in god?

What we need presently are modern Polanyi-type people and modern Crick-type people to sit down, over dinner and drinks, Holbach salon style, and to work out these ongoing conflicts. These discussions, however, should NOT be anchored in mythical words, such as the *vis* of Venus. In other words, supposing we could go back in time, and put an upgraded Crick in front of Polanyi, he might directly tell him that the enzyme molecule does NOT have the *vis*, or goddess force, of Venus, in its structure, atoms, or function. Crick, to continue with his *Of Molecules and Men* lecture, said the following:

"Let us return now to a consideration of the meaning of vitalism. We have seen that it means that there must be something else in a biological system which cannot be included under the heading of 'physics' or 'chemistry'. This must be some sort of 'force' or some directing 'spirit' – this is the sort of idea that appeals to the non-scientists."

— Francis Crick (1966), *Of Molecules and Men* (pgs. 25-27)

Here, Crick, in his statement that 'must be some sort of 'force' or some *directing* spirit' in so-called *biological* system, is correct. Biological derives from the Greek *bios*, which derives from a magic square cipher of the sun god, which derives from the Egyptian goddess Hathor and the *directing* spirit, or whatever,

that emanates from her ‘ankh’, an ancient Egyptian, pre-dynamistic, magical wand, related in some way to the sun or heat. We, however, no longer need a magic wand to define heat. Crick, to continue, says:

“Scientists, on the other hand, prefer to think that there will be ‘extra laws’ in biological systems, which are not included in physics and chemistry. The difficulty with this last point is to say clearly what sort of thing such an extra law would be, and, even more, to give a concrete example of one. In a certain sense it could be argued that *natural selection* is such an extra law, and I would certainly think it was a law of the most fundamental importance for biological systems. But it is not at all clear that something like it could not have been deduced from the study of, say, the chemistry of open systems. It is quite conceivable, that **the study of chemical engineering would have thrown up a law similar to natural selection**, since if we came across anything in the form of a replication process in a simple chemical system we would be confronted with behavior of this kind. Such behavior, however, may be exceedingly rare.”

Here, we concur with Crick, in that ‘natural selection’ can be explained by the study of chemical engineering. The core subject of modern chemical engineering are: physical chemistry and chemical thermodynamics. In these subjects, one will learn that *nature*, aka the atheist powers operating in the universe, ‘selects’ which species will react together. This selection process, as we currently understand things, is determined according to the measure of the change in the ‘Gibbs energy’ of the system.

This chemical thermodynamic natural selection logic was deduced in the years 1882, by Helmholtz, to 1923, by Lewis, well past the days of Darwin. We are only beginning to catch up with the ramifications of this. The author’s *Human Chemistry* (2007) and *The Human Molecule* (2008), give a basic summary, as to how nature select. The core treatise, however, is Gilbert Lewis’ *Thermodynamics and the Free Energy of Chemical Substances* (1923). This, however, is what is called ‘advanced level’, to say the least.

Crick, to continue, argues that the best way to refute vitalism, would be to synthesize a ‘biological object’, e.g. a cell or rabbit, completely synthetically, starting from the chemical elements:

“But what test could be used to refute vitalism? One obvious approach could be to try and **make some biological object completely synthetically**, starting from chemical elements. It would certainly disturb many people if some simple living organism could be made in this way. Nevertheless, I foresee that even if it were done there would be those who would claim that the system, having been made by us was then ‘colonized’ by the ‘vitalistic force’, or the ‘soul’, or whatever they might like to call it, which thus took over the workings of the system. So, in addition to being able to ‘synthesize’ it we see that it is necessary to explain the ‘behavior’ of the organism in terms of physical and chemical laws.”

— Francis Crick (1966), *Of Molecules and Men* (pg. 25-27)

This is all very intelligent, to say the least. Crick in another part of his lecture, gives an anecdote about a woman who believed that vegetables are not living things. To start with, he says:

“It is notorious to define the word ‘living’. In many cases we all know whether something is alive or dead. You are alive; cats and dogs are alive; whereas a rock or a pane of glass is dead. But **the word ‘dead’ is a bad one, because it implies that the object was once alive and is now dead**. It is interesting that there is no simple word or something that is not alive and never has been. In the old game, the question was *animal*, *vegetable*, or *mineral*? And here the word mineral does not service for the sense we want. Notice, too, useful distinction between ‘animal’ and ‘vegetable’.”

— Francis Crick (1966), *Of Molecules and Men* (pg. 3)

Here we see intelligence. It is illogical to call a ‘rock’ or ‘pane of glass’ dead. Why? Because it, by definition, implies that the rock or pane of glass once had the *vis of Venus* within its composition, but that the *vis of Venus* has been removed, presumably taken away by the god Mor, the root of the words such as mortician and mortuary. In other words, when a window breaks, we do not take it to the *mortician*, but rather we go to the hardware store to get a new window or piece of glass.

The linguistic confusion, Crick addresses here, revolves around the principles that describe why some things move or animate and others don’t. A rock or a pane of glass, e.g., does not dance. As to why people dance, we might recall Paul Dirac’s famous query to Werner Heisenberg, during their two-week cruise to Japan, who asked: ‘why do you dance?’ Dirac could apply relativity theory to the electron to predict the anti-particle, but he could not understand why people dance?

Crick, to continue, then refers to an incident when he was having lunch with some woman who believed that oysters were alive whereas lettuce was not alive or not a living thing:

“I remember once declaring a passion for oysters, and being told by a young woman: **‘I could never eat anything that’s alive!’** She was munching salad at the time, which is certainly vegetable and, I shall argue, can well be considered to be alive.”

— Francis Crick (1966), *Of Molecules and Men* (pg. 3)

Here, Crick laughs at a woman who believes that a *vegetable* is not alive, but that an *oyster* is alive, a belief vented from her mind, owing to her morality system.

This ties into John Stewart and his ‘moral motion’ theory objections to not eating animals, as well as to Jean Sales ‘Newton in Senegal’ parable about the Merman, African, beetle, and Newton digressing about morals and diet, while Newton checks the tides off the coast of Africa. Again, moral theory is not the focus of this book, but do see the need here for correct foundational unambiguous language in daily discourse.

Crick’s *Of Molecules and Men* should be read in full. We will but leave off this section with Crick’s overly-famous bold suggestion:

“Let us abandon the word ‘alive’.”

— Francis Crick (1966), *Of Molecules and Men* (pg. 5)

The abandonment of the word ‘alive’ is the focused aim of this publication.



8.3 | Lawsin: If atoms are not alive, then humans are not alive (2000)

In 2000, Lawsin, an American aeronautical engineer, electronics inventor, and philosopher, began to publish some views about the ‘origins of origins’, the study of which he refers to as *originemology*, one of his many neologisms, generally meaning the birth of a notion or idea or concept. One idea or concept that he focuses on is the origin or birth of the concept of being ‘alive’.

The following quote, is Lawsin’s starting point for discussion, namely if atoms are not alive, and humans are made from atoms, then by repercussion, humans are also not alive or rather are non-alive atomic things:

“If atoms are not alive and humans are made of atoms, then **humans are not alive.**”

— Joey Lawsin (2000), *Originemology*

This statement is a strikingly-correct statement! Humans are not alive. Another popular quote, by Lawsin, is the following:

“Life is chemistry, not biology.”

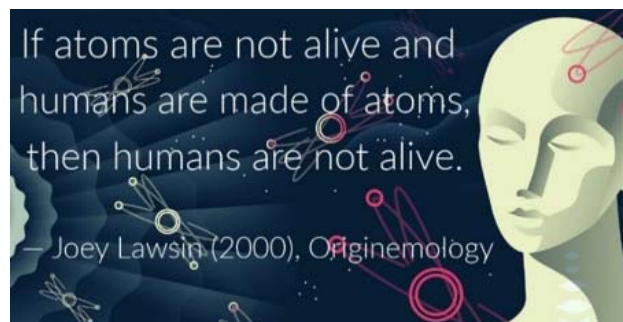
— Joey Lawsin (2000), *Originemology*

If ‘life is chemistry’, and ‘chemistry does not know the word life’, as Charles Sherrington (1938) has informed us, then life does not exist, because it is unknown to physical chemistry. Life, in short, does not exist, because it is not a physicochemically measurable quantity or thing.

In 2009, Lawsin, in his blog ‘20 Most Common Theories on the Origin of Life’, which he says derives from notes he had in a 1988 manuscript entitled *Evolution of Creation*, argued that what we call ‘being alive’ is an illusion formed by what he calls an *animation effect*, specifically:

“The ‘animation effect’ is a theory that claims that since the beginning of time everything is alive. Objects are intact or bonded cohesively due to the forces pulling and pushing them. These combined centripetal and centrifugal forces are called gravitational attraction. When objects move, they create all forms of parameters like friction, heat, temperature, vacuum, pressure, weight, and density to name a few. Because of these latent motions and parameters, objects are always in an animated state. Even stationary objects are always in motion. Being **stationary actually does not exist.**

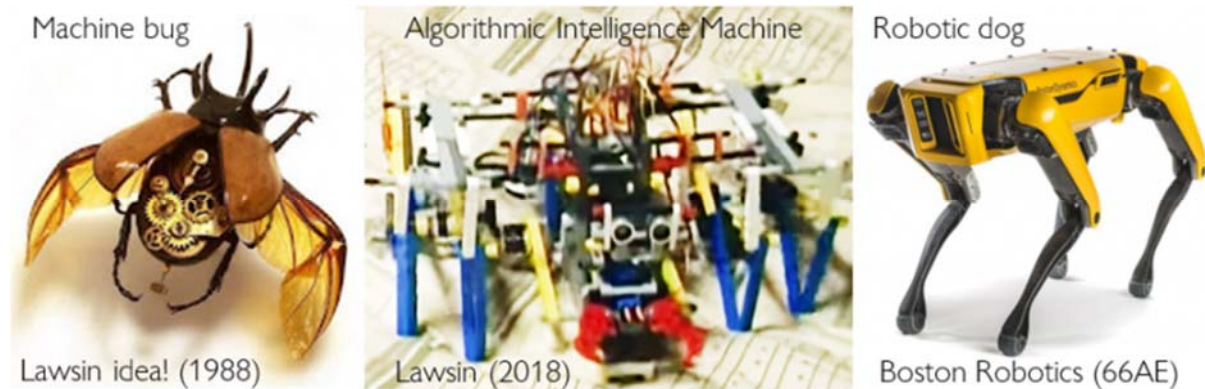
When objects transform from simple to more complex systems, they become highly more animated. The **illusion of aliveness** is manifested by an extremely complex, cross multi-layered synchronization of sensors-senses that structurally act and react in chorus generating the impression of being alive or with life. Objects that are highly animated are classified as living things and those that are not as non-living things.



Objects are neither created nor destroyed. They **do not live or die**. They simply **become animated over time because of the power of energy**. Internally, they are dynamically alive. This embedded phenomenon of acting alive or with life is called the animation effect.”

Here we see good logic. Objects do not live nor die, but become more *animated* over time because of the *power of energy*, or forces moving objects through unit distances per unit time. Moreover, aliveness is an illusion. Here, we see Empedoclean-Lucretian like logic, restated in modern guise.

In 2018, Lawsin had built crawling Lego robots, supposedly programmed with some algorithm he devised, as shown below middle:



He refers to the philosophical study of these algorithmic intelligence machines as ‘abiozoics’, a portmanteau of *abio* + *zoe*, as follows:⁴

“**Abiozoics**, which means the creation of non-life (abio-) to life (zoi-) [zoe-], is a discipline that generally studies the transformation of non-living species to living organisms. It also deals specifically with the transformation of abstract to realities or from nothing to something.”

— Joey Lawsin (2009), “Silver Species”, Jul 1

Lawsin, here, to clarify, is unaware of the fact that “bio” (NE:282) and “zoe” (NE:815), while both related to the Greek model of life, have two completely different cipher-based etymologies and meanings, defined by the numbers “282” and “815” and their correlative secret names and sun god meanings.⁶

While Lawsin, as shown in these examples, seems to have discerned that life is a vacuous concept, with no real origin, we will but point out, in conclusion, barring prolonged digression, that the place of this ‘life void’, he attempts to situate some sort of metaphysical numbers based argument in its place, where everything, physics and chemistry included, is reduced to 1s and 0s. In short, he has replaced the life concept with a ‘bit god’.⁵ Moreover, throughout all of his metaphysical argument, he retains all the historical life terminology, e.g. as referring to Boston Robotics robotic dog as a *biotronic* device, or life-life robot.

8.4 | Brooks: Life is a top five nonsensical thing in modern science (2008)

In 2005, Michael Brooks, a physicist turned science writer, in *New Scientist*, penned the article “13 Things That Don’t Make Sense”, the 6th most nonsensical thing being on the prolonged debate about whether or not carbon 14 emissions from soil on Mars, found during the Viking Mission (1976), indicate that “life” on Mars exists or has existed?

In 2008, Brooks, in his 13 Things That Don’t Make Sense: the Most Baffling Mysteries of Our Time, a book-length expansion of his former article, defined ‘life’ as the 5th biggest thing in modern science that doesn’t make sense. The following is his chapter focus question:

“Are you more than just a bag of chemicals?”

— Michael Brooks (2008), *13 Things That’s Don’t Make Sense* (§5)

Brooks | 2008

1. The Missing Universe
2. The Pioneer Anomaly
3. Varying Constants
4. Cold Fusion

5. Life

→ Are you more than just a bag of chemicals?

6. Viking
7. The Wow! Signal
8. A Giant Virus
9. Death
10. Sex
11. Free will
12. The Placebo Effect
13. Homeopathy

- Erwin **Schrodinger** | *What is Life?* (1944)
- Stanley **Miller** | Miller-Urey experiment (1953)
- Start **Kauffman** | *At Home in the Universe* (1995)
- Lynn **Margulis** | *What is Life?* (1995)
- Paul **Davies** | *The Fifth Miracle* (1999)



The phraseology of referring to a person as ‘just a bag of chemicals’, to note, is a derogatory way of putting things, that was popular in the late 20th century.² Correctly, a person is a powered CHNOPS+20 element chemical species. This good point about Brooks message is his focus on the nonsense that arose in attempts to find a way to define ‘life’ scientifically, in terms of chemicals, on Mars.

The image, adjacent, shows list of the top 13 nonsensical things in modern science, according to Brooks. The four names listed: Erwin Schrodinger, Stanley Miller, Stuart Kauffman, Lynn Margulis, and Paul Davies, are classified as abioism stepping stone authors. In other words, these are four key authors who have attempted to explain life at its origin, in terms of modern science, in a compelling manner. It takes some time to figure out what is wrong with each of their arguments.

The tipping point for Thims was Kauffmann, who’s 1995 autocatalytic closure model, explained in a guise or dress of attempting-to-be chemical thermodynamic arguments, was a sticky point. The following is Kaufmann’s main riddle:

“Alone, each molecular species is dead. Jointly, once catalytic closure among them is achieved, the collective system of molecules is alive.”

— Stuart Kauffman (1995), *At Home in the Universe* (pg. 50)

Kaufmann’s logic, however, when examined in detail amounts to a perpetual motion theory argument. Thims, however, in 2007, could not fully see through the haze. Brooks book was a compelling goad that helped Thims move into the abioism mindset.

8.5 | Walker: Is life fundamental?

In 2015, Sara Walker, an American physicist, whose research focuses on astrobiology and origin of life theory, penned a chapter entitled ‘Is Life Fundamental’, in the collaborative book: *Questioning the Foundations of Physics*, printed as the last of fifteen chapters. In this chapter, Walker says that if what we call life reduces to sets of chemical reactions, then, in reality, life does not exist:

“Precisely what do we mean by the very nature of the question of the ‘emergence of life’? Stated most acutely, if a fully reductionist account is sufficient, and life is completely describable as the nothing other than very complicated sets of chemical reactions, what then can we say originated? Taken to the extreme, the ‘all life is just chemistry’ viewpoint advocates in a very real sense that **life does not exist** and as such that there is no transition to be defined. While this may very well be the case, when cast in these terms, even the avid reductionist might be unwilling, or at least hesitant, to accept such an extreme viewpoint.”

— Sara Walker (2015), “Is Life Fundamental” (pgs. 259-60)

In reality, according to Walker, life does not exist. This is correct. Life does not exist in reality. She then says that the avid reductionist might be unwilling to accept this viewpoint. Why should we not accept reality? Next she says:

“It is widely appreciated that the known laws of physics and chemistry do not necessitate that life should exist. Nor do they appear to explain it.”

— Sara Walker (2015), “Is Life Fundamental” (pgs. 260)

This is the flagship point of Sherrington (1938), as discussed, who tells us that chemistry and physics do not recognize ‘life’. Sherrington rightly says that life is an anthropism, and that science desires to rid itself of anthropisms.

Walker’s opening argument, at this point, all fairly cogent. After this point, however, she starts citing John Wheeler and his ‘it from bit’ arguments. This amounts to arguing that ‘information’, i.e. mathematical 1s and 0s, of computer language, employed as sort of wiggle room technique (to argue whatever you want), are more fundamental than the laws of physics and chemistry. We have already classified this as newer resurgent form of neo-vitalism, in our Neo-Vitalism (§P.3) section. Arguing that life can be explained by ‘bits’ is no different than arguing that life can be explained by the ‘ankh’ of Hathor.

These types of bit-arguments, in basis, tend to be prolonged convoluted, covert efforts to defend some sort of ingrained anthropism or quasi-religious belief.³ They all derive from the John Neumann joke.

The only good thing that ever came out of bit babble, to mention in passing, was that John Tukey, the coiner of the word bit, posited a free energy theory of attitude states, according to which people in different attitude mental states can be defined or quantified by a Gibbs formation energy, in that state. Neumann also theorized how economic systems can be explained in terms of Gibbs energy. The difference here, between bits and Gibbs energies, is that the latter are real, and the former are not real things. A bit is just like an alphabet letter or a pebble count. There is now foundational principle of physis based on one or two pebbles.

To close things off, we will mention that Walker, to her credit, in the opening pages of her article, cites the following quote by Darwin:

“I have long regretted that I truckled to public opinion and used Pentateuchal term of ‘creation’, by which I really meant ‘appeared’ by some wholly unknown process. It is mere rubbish thinking, at present, of ‘origin of life’; one might as well think of origin of matter.”

— Charles Darwin (1863), “Letter to Joseph Hooker”

Darwin spent a good many years just thinking about proper terminology. We would be wise to heed his wisdom.

This about wraps up our historical build up. In sum, in this chapter, we have summarized about two dozen views, which have been progressively pushing to the conclusion that life does not exist.

Synopsis: First, read Sherrington’s *On Man on His Nature* (1938). Second, read Crick’s *Of Molecules and Men*.

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2. https://hmolpedia.com/page/Bag_of_chemicals
3. https://hmolpedia.com/page/Information_is_more_fundamental_than
4. <https://hmolpedia.com/page/Abiozoics>
5. https://hmolpedia.com/page/Bit_god
6. <https://hmolpedia.com/page/Zoe>

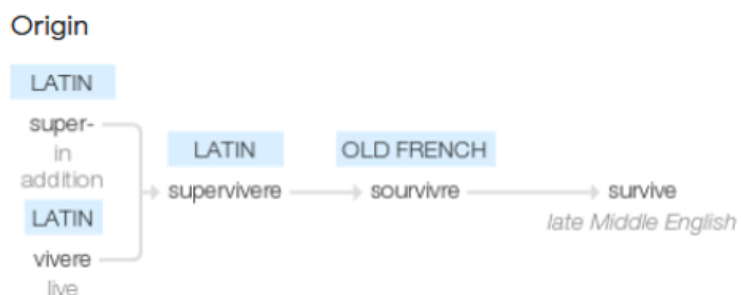
9. Survival of the Fittest

“The *accidental evolution* theory now states that following the big bang, ‘life’ *spontaneously* arose from chemicals. What is curious is that these chemicals somehow supposedly developed the desire to ‘survive’.”

— C.W. Adams (2006), ‘How Could Chemicals Have a Desire to Survive?’

Chapter point: In 1864, Herbert Spencer convinced Darwin to change the term *natural selection* to ‘*survival of the fittest*’. The term *survival* means ‘super vis of Venus’. The premise of carbon atom wanting to obtain a ‘super Venus state’ is the nonsensical implication of this. [length: 5-pgs]

The term ‘survival’, as an English word, according to Merriam-Webster, entered the vocabular published literature in 1598, defined as: ‘a living or continuing longer than another person or thing; the continuation of life or existence.’ The basic etymology of survive is shown adjacent.



Most people, in the last thousand or so years, have been content with this so-called *basic* or standard etymology. The detailed etymology of *survival*, with most of the Egyptian-to-Greek myth ciphers having been decoded, is shown below, prior to its Latin origin:

English	Latin	Meaning	Roman myth-meaning	Greek myth-meaning	Egyptian myth-meaning	Astro-theology
Survive	<i>Super vivere</i>	<i>Super vita</i> (Super vitalism)	<i>Additional vis</i> of Venus (extra vis viva)	<i>Super-force</i> of Aphrodite	Extra <i>ankh-power</i> of Hathor	Extra milk (light) of the Milky Way

The term ‘survive’, in short, means: super, additional, or extra “*vis*” of Venus, or vis, in addition to the vis, one had already obtained from Venus, after having been given one’s allotted amount of ‘vita’ (life). The term survival is one of dozens of vis-based words in the English language, e.g. believe, violence, vivacious, vivify, etc., that are assumed to have great meaning. The online ‘vis category’ page keeps an updated collection of such terms, currently at about 35+ terms.² All vis-based terms, in short, have some amount of etymological confusions ingrained in them.

This chapter will devote a few pages to his one vis-term (survival) in particular, because (a) many people presently believe that ‘survival of the fittest’ is the meaning of existence, as though this principle were based on some law of the universe, which it is not, and (b) because Robert Pirsig, in his *Lila: an Inquiry into Morals* (1991) gives a very-cogent objection to this term used as a rule for existence, in respect to the formation of a chemistry professor, from atoms and the laws of thermodynamics.¹

9.1 | Natural selection (Darwin) = Survival of fittest (Spencer)?

On 12 Nov 1859, Charles Darwin published his *On the Origin of Species: by Means of Natural Selection or the Preservation of Favored Races in the Struggle for Life* (AB:7), in which he employed the term “natural selection” as the mechanism by which “species”, or the “favored” races, as he defined things, are preserved in the “struggle for life”. Darwin, in this book, did NOT, however, use the term “survive” or “survival” one time!

In 1864, Herbert Spencer, who was working to reconcile science and religion, and who also had some rather objectionable new “definitions of life”, which triggered a number of back-reactions, convinced Darwin, via a suggestion by Alfred Wallace, who wrote to Darwin about this in 1866 about Spencer’s terminology, and how the premise of nature being a thing that “selects” is too anthropomorphic or

theological in conception, or something to this effect, and suggested that that the following terminology, developed by Spencer, would be better:

Natural selection = Survival of the fittest = Super [vis of Venus] of the fittest!

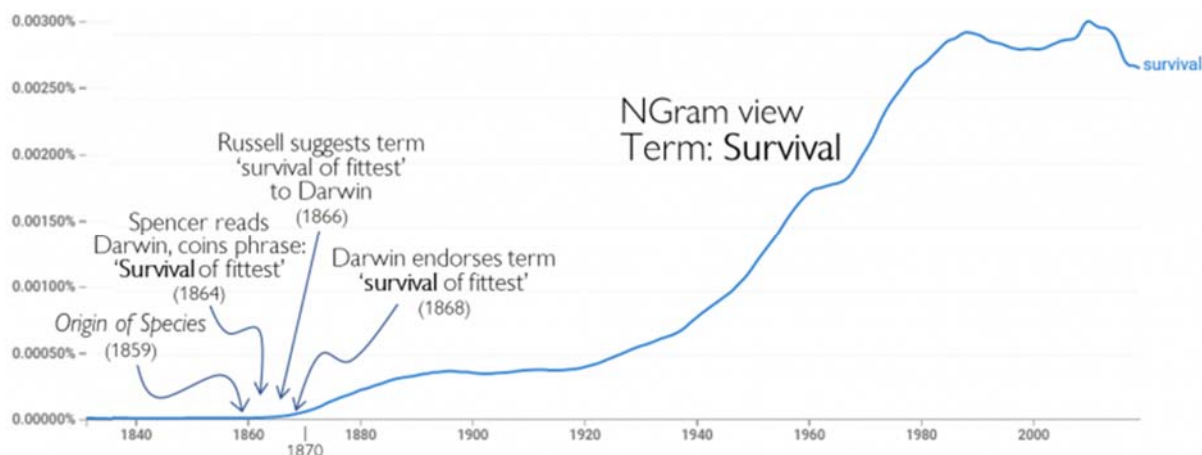
Here, we have directly translated what ‘survival’ means, etymologically. Darwin absorbed Spencer’s suggestion, and two years later gave the term "survival of the fittest" his blessing:

“This preservation, during the ‘battle for life’, of varieties which possess any advantage in structure, constitution, or instinct, I have called ‘natural selection’; and Herbert Spencer has well expressed the same idea by the ‘**survival of the fittest**’. The term natural selection is in some respects a bad one, as it seems to imply ‘conscious’ choice; but this will be disregarded after a little familiarity.”

— Charles Darwin (1868), *The Variation of Animals and Plants Under Domestication* (pg. 6)

The aim of Spencer, to note, was to reconcile science and religion. Hence, there was tendency in the mind of Spencer to adopt, employ, and promote religious-friendly terms, such as *survival*, a coded vis-term, aka Venus religio-mythology based term. Certainly, to clarify, neither Spencer nor Darwin would have been aware or keen to this etymology, in these decades, as Egyptian mythology, and its connection to Greek and Latin word etymology, only came to be intelligible in the early 20th century.

Whatever the case, the following nGram view of the libraries the world, shows the growth and *proliferation* (another vis-term) of the word survival:



Darwin, who was against the inclination to bend terminology so to be religious-friendly, here, gave into peer pressure. Confusion in concept has been the result.

Here we directly see how incorrectly chosen terminology, used in scientific discourse, can have a profound effect, in respect to conceptual confusion and terminological confusion, culturally.

9.2 | Pearson: There is a problem! (1892)

In 1892, Karl Pearson, in his §9.12: ‘Natural Selection in the Inorganic World’, as mentioned earlier, stated very frankly that there is a problem, with respect to the Darwinian model of the origin of species, which deserves special attention from physicists:

“**There is a problem**, however, with regard to ‘natural selection’ which deserves special attention from both physicist and biologist, namely: Within what limits is the Darwinian formula a valid description ? Assuming the spontaneous generation of life as a plausible, if yet unproven, hypothesis, where are we to consider that selection as a result of the *struggle for existence* began?”

— Karl Pearson (1892), *Grammar of Science* (pg. 356)

Pearson here is saying that if the organic world is a direct outgrowth of the inorganic world, then by reason of continuity, there has to exist one mechanism that explains the origin of species, and the *inorganic* world does not struggle to exist.

Pearson classified this a paradox that would be solved in the future. Herein, as our aim is not to solve Pearson’s paradox, as partial work on this has already been done by those including: Alfred Lotka (1925), Harold Blum (1934), Norman Dolloff (1975), Georgi Gladyshev (1998), and Thims (2007), we will simply but cite the following paragraph by Walther Nernst, a physical chemist, written, coincidentally, in the same Pearson was publishing is paradox, which contains the key elements of species selection solution in its description of how natural processes work:

“Since every chemical process, like every *process of nature*, can only advance without the introduction of external energy only in the sense in which it can perform work; and since also for a measure of the chemical affinity, we must presuppose the absolute condition, that every process must complete itself in the sense of the affinity—on this basis we may without suspicion regard the maximal external work of a chemical process (i.e. the change of free energy), as the measure of affinity. Therefore, the clearly defined problem of thermo-chemistry is to measure the amounts of the changes of free energy associated with chemical processes, with the greatest accuracy possible ... when this problem shall be solved, then it will be possible to predict whether or not a reaction can complete itself under the respective conditions. All reactions advance only in the sense of a diminution of free energy, i.e. only in the sense of the affinity.”

— Walther Nernst (1893), *Theoretical Chemistry: from the Standpoint of Avogadro's Rule and Thermodynamics* (pg. 692)

In other words, barring prolonged digression, in order for a *reactant* species, to be ‘selected’ by nature or the powers of the universe, to become a *product* species, the following equation is the governing rule:

$$\Delta G < 0$$

which says that the change in the *formation energy* G for the process has to be negative in value, i.e. exergonic, meaning that the reaction goes spontaneously on its own, and energy in the form of work is released outward.

In other words, in the 1890s it came to be understood that micro-forces, aka affinities, which bring about the ‘choice’ of species to mate and sexually reproduce with each other, was a value measured by free energy of the system the species were reacting in. Natural selection no longer had anything to do with survival and struggle for existence.

The adjacent re-annotated image, from an original article entitled ‘How to Build Life in a Pre-Darwinian World: Perhaps Chemistry Played a More Instrumental Role in the Origin of Life Than Scientists Thought?’ (2016), by science writer Emily Singer, gives the basic outline of what Pearson (1892) and later Pirsig (1991), discussed below, are addressing, in respect to the absurdities, of the survive and struggle model.⁴ In other words, the ‘primordial soup’ model (Oparin, 1914), aka ‘warm pond’ model (Darwin, 1871), or ‘hot thin soup’ model (Haldane, 1932), argues that some type of ‘atomic geometry’, pictured above as a four-legged red soup bean (labeled: life) arose out of the pond or hot soup, by chemicals that ‘struggled’ to bring this atomic bean geometry into existence, after which it began to ‘survive’, meaning to be super-filled with the force of Venus (aka *vis* of Venus)! It’s kind of like nonsense gone wild, which everyone believes in.



The irony here, is that only a handful of people, including Pearson and Robert Pirsig, discussed below, have actually taken the time to publish an objection to this so-called struggling-red-bean or ‘surviving being’ model of things? On the other hand, we might reason, a struggling red soup bean model of origins far better than a seven-day creation model or origins.

9.3 | Pirsig: Why does ‘life’ survive? It’s Illogical (1991)

In 1991, Robert Pirsig, in his *Lila: an Inquiry into Morals*, objects, very-cogently, to “survive”, as follows:

“Life’s just an extension of atoms, nothing more, it has to be that because atoms and varying forms of energy are all there is ... At the time of [the] origin [of evolution theory] it wasn’t yet understood that at the level of photons and electrons and other small particles the laws of cause and effect no longer apply; that electrons and photons simply appear and disappear without individual predictability and without cause. So today we have as a result a theory of evolution in which ‘man’ is ruthlessly controlled by the cause-and-effect laws of the universe while the particles of his body are not. **The absurdity of this seems neglected?**”

Pirsig goes on to say that the problem has been neglected because it is outside of everyone’s department:

“The problem **doesn't lie in anyone's department**. Physicists can ignore it because they are not concerned with man. Social scientists can ignore it because they are not concerned with subatomic particles. But right from the beginning, substance-caused evolution has always had a puzzling aspect that has never been able to eliminate. It goes into many volumes about how the **fittest 'survive'** but never once answers the question of why?”

In other words, even in 1890s, Karl Pearson was in the ‘physics department’ and Walther Nernst was in the ‘physical chemistry’ department, each writing and publishing in different journals and books. By the when Pirsig entered the fray, the departments were so fragmented, that he quit college, owing to what Pirsig called the theory of multiple hypotheses.

Specifically, Pirsig, to give some background, was a child prodigy, cited with an IQ of 170 at age 9. In 1943, at age 15, after finishing high school, he entered the University of Minnesota at age to study biochemistry. Pirsig was interested, as he said, in science as a ‘goal in itself’, rather than a way to establish a career. He was a knowledge seeker. Troubled, however, with the issue of ‘multiple hypotheses’ in science, Pirsig soon left college, and began to travel around the world and write. He also spent time in an insane asylum in 1961 and 1963, and was diagnosed with schizophrenia. He writes about this as follows:

“When you look directly at an **insane man** all you see is a reflection of your own knowledge that he's insane, which is not to see him at all. To see him you must see what he saw and when you are trying to see the vision of an insane man, an oblique route is the only way to come at it.”

— Robert Pirsig (1974), *Zen and the Art of Motorcycle Maintenance* (§7)

Sometimes the so-called insane person, having broken free from accepted ‘knowledge’, e.g. that ‘life has to *struggle* to survive’, actually sees the world more sanely than everyone else in the world. Here we can correctly classify both Pirsig and Pearson as sane, in respect to their view that Darwin's model, or rather Spencer's model, had problems and everyone else as insane, for thinking that all was good.

The deeper issue is that most people, in the decades after Darwin, were basically in shock that someone had actually overthrown the Bible. Darwin's *Origin of Species* became the new Bible and whatever Darwin said was now gospel.

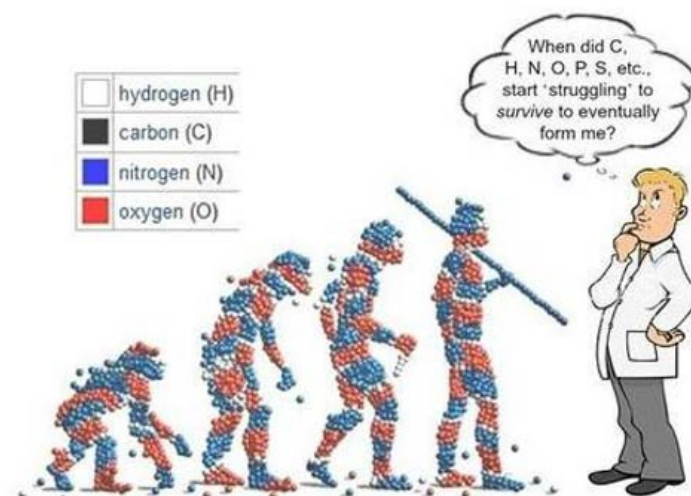
Pirsig, who wasn't about taking Darwin as gospel, then jumps into apex of the confusion, as follows, namely by asking ‘why do the fittest survive?’, which he presumably asked when he was age 15, finding no satisfactory answer (or was given multiple hypotheses, or basically no answer):

“This is the sort of irrelevant-sounding question that seems minor at first, and the mind looks for a quick answer to dismiss it. It sounds like one of those hostile, ignorant questions some fundamentalist preacher might think up. But **why do the fittest survive? Why does any life survive? It's illogical.** It's self-contradictory that ‘life’ should survive.

If life is strictly a result of the physical and chemical forces of nature then why is life opposed to these same forces in its struggle to survive? **Either life is with physical nature [natural] or it's against it.** If it's with nature there's nothing to survive. If it's against physical nature [unnatural] then there must be something apart from the physical and chemical forces of nature that is motivating it to be against physical nature. The **second law** of thermodynamics states that all energy systems ‘run down’ like a clock and never rewind themselves. But life not only ‘runs up,’ converting low energy sea-water, sunlight and air into high-energy chemicals, it keeps multiplying itself into more and better clocks that keep ‘running up’ faster and faster.”

Next, Pirsig asks, having discarded the Darwin-Spencer ‘struggle to survive’ model, as plainly and directly, why do the CHNO-based elements organize themselves into the form a chemistry professor:

“Why, for example, should a group of simple, stable compounds of carbon (C), hydrogen (H), oxygen (O), and nitrogen (N), ‘struggle’ for billions of years to **organize themselves into a professor of chemistry?** What's the motive?”



Robert Pirsig (1991)

If we leave a chemistry professor out on a rock in the sun long enough the forces of nature will convert him into simple compounds of carbon, oxygen, hydrogen and nitrogen, calcium, phosphorus, and small amounts of other minerals. It's a one-way reaction. No matter what kind of chemistry professor we use and no matter what process we use we can't turn these compounds back into a chemistry professor. Chemistry professors are unstable mixtures of predominantly unstable compounds which, in the exclusive presence of the sun's heat, decay irreversibly into simpler organic and inorganic compounds. That's a scientific fact.

The question is: Then why does nature reverse this process? What on earth causes the inorganic compounds to go the other way? It isn't sun's energy. We just saw what the sun's energy did. It has to something else. What is it?"

Here we see a keen mind, to say the least.

Lastly, to comment quickly on Pirsig's statement that the second laws states that 'all energy systems run *down like* a clock and never rewind themselves'. This is another example of perceived wisdom, that is false, just like Spencer's struggle ideology. The original and correct version of the second law is found defined by Rudolf Clausius (1865) and formulated correct by Gilbert Lewis (1925) for formations of chemical species. Digression, in efforts to explain this confusion further is the subject of *human chemical thermodynamics*. The inquisitive reader, however, can read though the online 'Planck entropy' article, which is the primary source of the erroneous 'all energy systems run down' model of the second law.³

Synopsis: The phrase 'survival of the fittest' is Spencerian babble. Correctly, nature 'selects', according to the rules outlined by Gilbert Lewis (1923).

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4. (a) Singer, Emily. (2016). "Stirring the Primordial Soup", The Atlantic, Feb 19.
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10. When did Goethe Become Alive?

“The body is a fortuitous concourse of atoms. There is no death for the body, only an exchange of atoms. Their changing places and taking different forms is what we call ‘death’. It’s a process which restores the ‘**energy**’ level in nature that has gone down. In reality, **nothing is ‘born’** and nothing is ‘dead’.”

— Uppaluri Krishnamurti (c.1970), *Source*

Chapter point: take a day-by-day look at the ‘coming-into-being’ and *going-out-of-being* of Johann Goethe, the originator of the human chemical reaction view of existence, in respect to the word ‘alive’.
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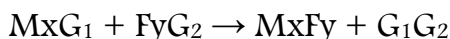
The question of when a thing becomes alive or is ‘born’, in respect to animal sexual reproduction, has been a long debated question. To put this question into semi-recent context, Uppaluri Krishnamurti, an Indian philosopher, noted for his ‘enlightenment in physical’ motto, argues, according to a mixture of molecular biology, Nietzsche, and guru theory, that in a world of atoms and energy, no ‘thing’ is ever really ‘born’. Krishnamurti’s writings, to note, do veer off into the new age a bit, but nevertheless, the gist of what he seems to have been grasping at is the idea that birth and death become confused ideas when examined according to energy.

The start-to-finish existence, experiences, and events of Johann Goethe, gives us a good timeline platform to examine this ‘birth according to energy’ confusion in detail. Goethe is the author of the 1809 *Elective Affinities: On the Nature of the Choice of Our Elective Attractions*, the founding publication of the science of human chemistry, and the details of his existence is said to be the most chronologized existences of all time. The following three event columns, from the online Goethe timeline, showing the birth range existence states of Goethe, age negative one to age one:¹

Date	1748	28 Aug 1749	7 Dec 1750
Age	-1	0	1
Event	Goethe’s parents marry:  Johann Caspar Goethe (1710-1782), aged: 38, a German lawyer, son of Friedrich Georg Goethe (1657-1730) and Cornelia Walter (1668-1754), marries: Catharina Elisabeth Textor (1731-1808), aged: 17, renamed: Catharina Goethe, the eldest daughter of Johann Wolfgang Textor (1693-1771), the city mayor, and Anna Margarethe Lindheimer (1711-1773)	Goethe is born:  “On Aug 28, 1749, on the stroke of noon, I saw the light of day at Frankfurt-on-the-Main.” He was born "blue", and almost "died" at birth.	Goethe’s sister Cornelia is born:  Cornelia Friederica Christiana Goethe (1750-1777), turned “Cornelia Schosser” (marriage name, age 22), Goethe's younger sister, comes into birthed existence.

Humans, according to Goethe’s theory of morphological theory of form change, chemicals to animals to people, are morphed chemicals. Goethe developed this theory between 1770s and 1810s, formerly published in his *Elective Affinities*.

In this context, the following double displacement reaction, describes his birth or rather chemical synthesis of Goethe:



Goethe, in this chemical equation is molecular entity G_1G_2 . The molecular entity MxFy is his father J.C. Goethe, symbol: Fx , less one sperm cell (G_1), and his mother Catharina, symbol: Fy , less one egg (G_2), the letter G short for germ cell (egg or sperm). The parents, in the marriage state, are attached via chemical bond, symbol ‘ $\equiv$ ’, shown above by the MxFy symbol (bond assumed). Goethe’s father, Johann Caspar

Goethe (1710-1782), pictured above left, symbol: MxG_1 , and mother, Catharina Textor (1731-1808), pictured above left, symbol: FyG_2 , married, i.e. became officially ‘bonded’, in 1748.

From the day the sperm entered the egg to the emergence of Goethe from the womb, the process took nine lunar months. Each lunar month is 29.531 days. Nine lunar months, which is the time it takes on average for a human to form, is 265.8 days.

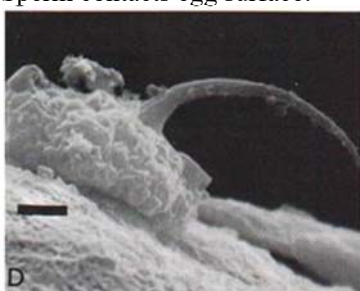
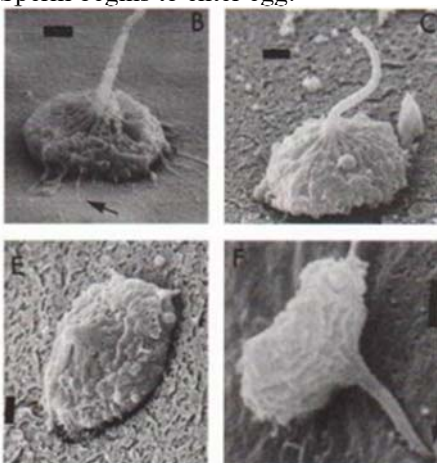
Hence, the transformative process of G_1G_2 fusion becoming a zygote [+1-2d], becoming a morula [+3-4d], becoming a blastocyst [+5-6d], becoming an embryo [+10-20d], becoming a fetus [+63d / +9w], to birth [+266d / 9m] can be summarized as follows:

$G_1G_2 \rightarrow \text{Zygote} \rightarrow \text{Morula} \rightarrow \text{Blastocyst} \rightarrow \text{Embryo} \rightarrow \text{Fetus} \rightarrow \text{Birth}$

The question, in this new Goethean human chemical reaction view of things, accordingly, is at what second, in this mechanism, or more broadly, on what day, did the newly synthesized Goethe become ‘alive’? From the point of view of atoms reacting, the search for the life start location a person’s birth becomes problematic.

10.1 | Sperm meets egg

To get our feet wet, in respect to this puzzled question, we may begin by following the step-by-step mechanism of the act of sex, in the seconds, hours, and days, directly preceding and following the act of sex, which occurred, on 21 Dec 1748, or nine months prior to when the child Goethe emerged from the birth canal. Hence, as shown below, via scanning electron microscope photos, we can follow the steps by which the sperm enters the egg:

21 Dec 1748	22 Dec 1748	22 Dec 1748
-9 mo	0	0.5
Sperm swims towards egg: 	Sperm contacts egg surface: 	Sperm begins to enter egg: 

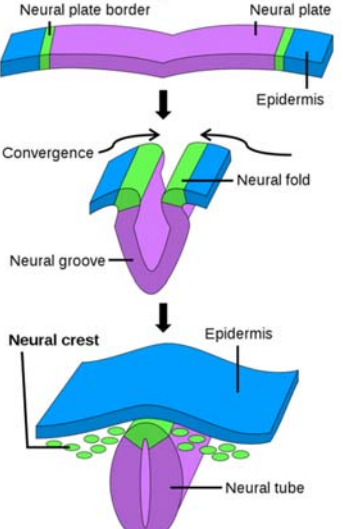
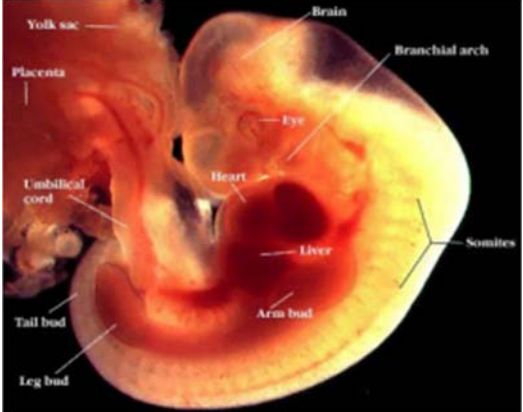
The reader is encouraged to following the online ‘conception to birth’ timeline, which is side-ways-scrolling, and gives a better illustration of the mechanistic steps involved, than can be shown in book format.⁴

To put the question of the origin of the ‘life’ of Goethe, we can begin by referencing the current legal working definition of life in respect to abortion. In Illinois, if a female experiences what is defined as an ‘unplanned pregnancy’, for reasons which can include homelessness, mental health, drug addiction, financial issues, among numerous others, she can legally go to a planned parenthood clinic, and get either a *medication abortion*, also known as the abortion pill, up to 10 weeks and 6 days gestation, or get *in-clinic abortion*, for gestation ages up to 21 weeks and 6 days.

At 22 weeks, in the US, state depending, and give or take the various ongoing changes to congressional acts, abortion becomes illegal, barring certain exceptions to save the existence of the mother or if the pregnancy is the result of rape or incest. A 2018 National Academies of Sciences, Engineering, and Medicine study found that most women who have abortions are unmarried (86%), are poor or low-income (75%), are under age 30 (72%), and are women of color (61%).

In 2014, according to the Guttmacher Institute, about 926,200 abortions were performed, in the US, among which only 1.3% of abortions were performed at or over 21 weeks’ gestation. At 21 weeks pregnant, the fetus is as big as a head of endive, 10.5 inches in length, and about 12.7 ounces in weight, fetus is big enough that the mother will begin to feel fetal movements more and more lately.

The following table gives in idea as to embryo development, in the first four weeks of form change of the developing human:

[+5-6d]	[+25d]	[+29d / 4w]
Blastocyst forms:  Blastocyst	Neural tube begins to form: 	Embryo begins to form different body parts, e.g. brain, heart, eye, and liver: 

Going beyond this precursory summary is not our concern. Volumes of books have been written in attempts to define where ‘life’ exactly starts, in the period between sex act and birth. These all result in arguments for arbitrary points, e.g. when the heart starts to beat, when brain activity is measured, when the fetus begins to move, and so on.

10.2 | Empedoclean view

To look at the question from a different perspective, we will employ the view of Empedocles, whom Goethe indirectly cites in his *Elective Affinities*, as summarized below, in respect to his their joint discussion of people mixing together has being akin to water, wine, or oil, who have no choice but to sperate or mix based on their inherent nature, as defined by their chemical properties:⁸

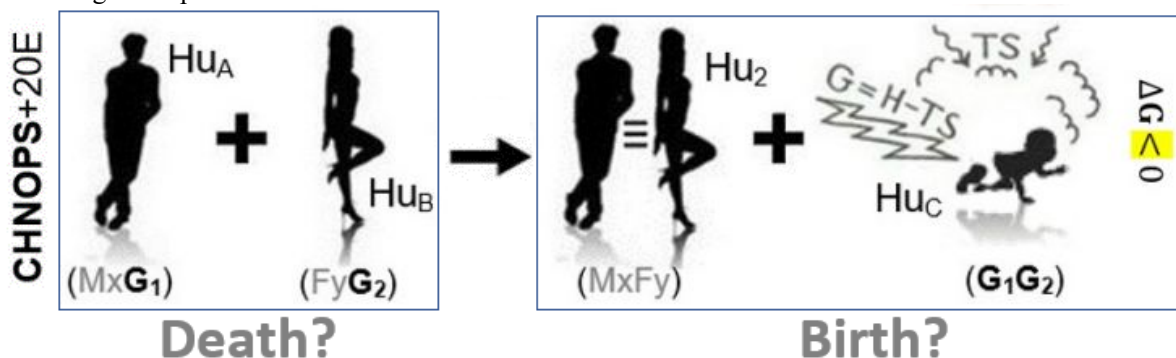
“Water has a greater affinity with wine, but with olive oil it is unwilling to mix.”

— Empedocles (c.450BC), fragment 56 (B91); Philoponus, *Commentary on Aristotle’s Generation of Animals*, 123.19-20

“And that, interrupted Edward, will be different according to the natural differences of the things themselves. Sometimes they will meet like friends and old acquaintances; they will come rapidly together, and unite without either having to alter itself at all—as wine mixes with water. Others, again, will remain as strangers side by side, and no amount of mechanical mixing or forcing will succeed in combining them. Oil and water may be shaken up together, and the next moment they are separate again, each by itself.”

— Johann Goethe (1809), *Elective Affinities* (P1:C4)

The following, as discussed, is the Empedoclean view, as concerns birth and death, which do not exist, according to Empedocles:

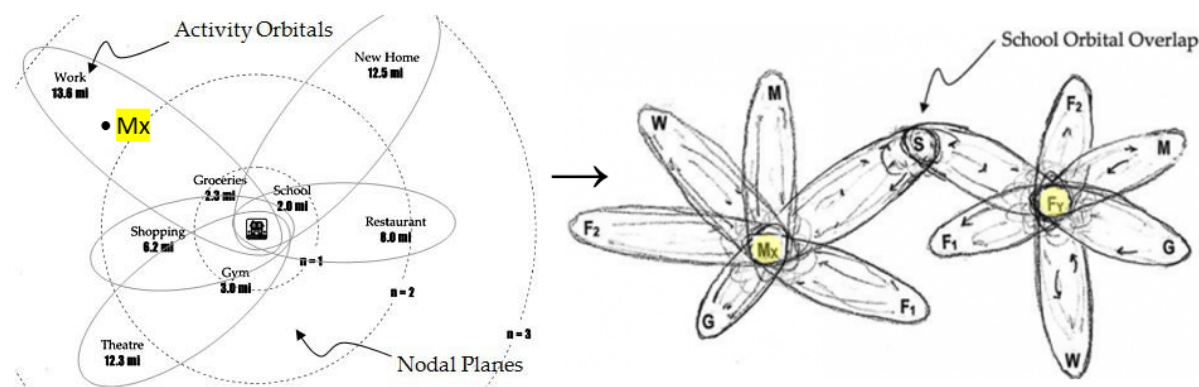


In other words, at left, we have what might be called the ‘death of the single life’. At right we have what might be called the birth of the ‘married with children life’. These two states of existence, according to

Empedocles, however, are but the coming together and later separation of the elements, the 26 CHNOPS+20E elements of the period table, which specifically comprise humans.

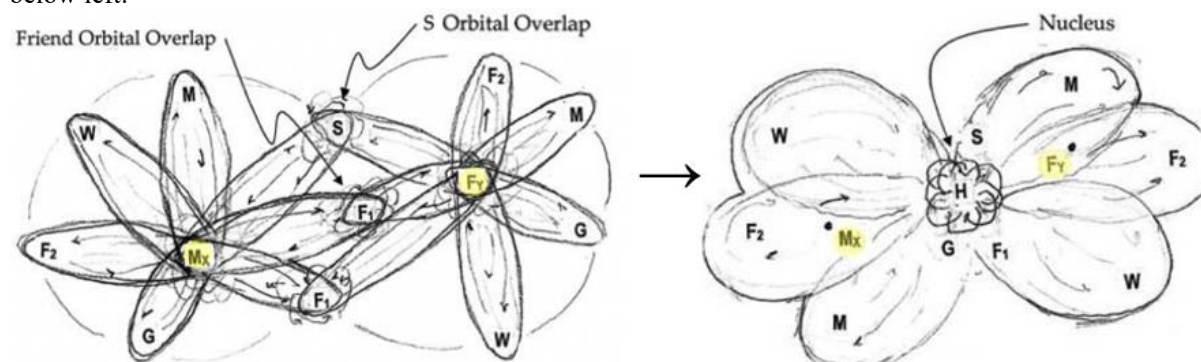
10.3 | Molecular orbital perspective

We can now use the Empedoclean death-and-birth-do-not-exist view and apply it to the *molecular orbital perspective*, a logic developed in 2003 to 2007 by the author, as covered in detail in his *Human Chemistry* (2007), wherein people are conceptualized as points, moving in their respective activity orbitals. A visual of this is shown below left, wherein single male Mx, represented by a dot '•', is shown moving in his work orbital, who resides by himself in his own apartment or home, as shown in the central nucleus location of the diagram:⁹



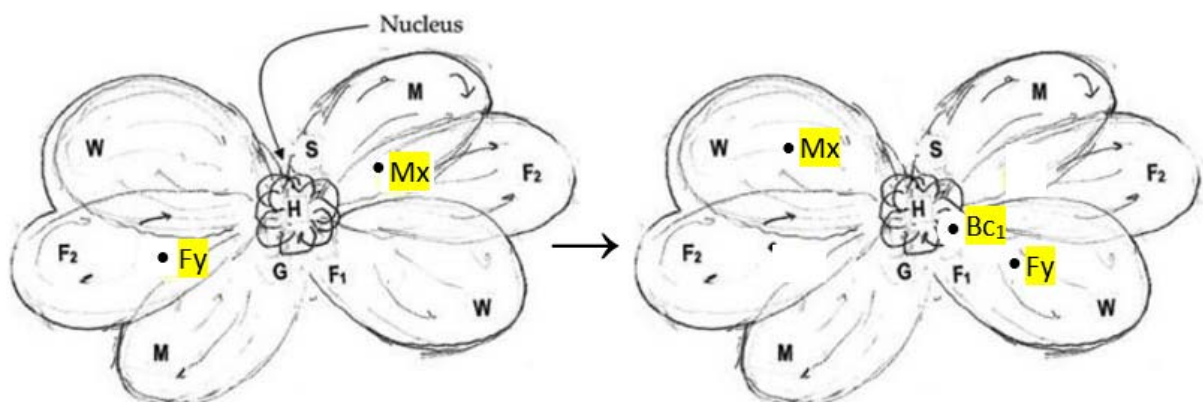
The dot model of the person represents the 26 elements of a human in a 'bound state', or simplified particle like conception of a human. If a person is tracked, as a dot or point, in a time-lapsed, GPS-tracked view, say over the course of a day, week, month, or year, but all seen at once, then we see the orbital perspective of humans, the way we presently see the orbital perspective of electrons.

In the diagram above right, we see the male Mx beginning to have some sort of exchange force interaction with an overlapping school orbital of a new female Fy, with whom he has taken a liking to. Let us assume that Mx and Fy are Goethe's parents, and that S some reoccurring social event that they met at. Next, let us assume that Mx and Fy begin to frequent two overlapping friend orbitals F₁ and F₂, as shown below left:

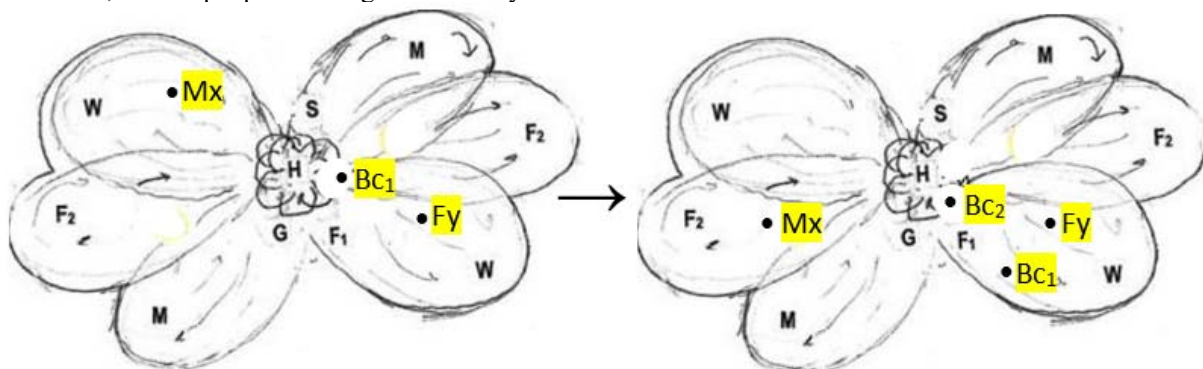


Eventually, Mx and Fy, or Goethe's parents marry, in 1748, and move into one home together, as shown above left. This is called the dihumanide molecular formation, wherein Mx and Fy, though still single entities, with their own minds, identities, and individual nature, have become joined, energetically speaking, into a bonded unit, held together by a certain measurable 'bond energy'.

Now, skipping forward a year, let's say we, in our advanced perspective, able to see these particles moving at a fast pace, look in on the dihumanide orbital, as in the weeks shortly after 28 Aug 1749, the day of the birth, out of the womb of the young Goethe, formerly defined as the G₁G₂ fusion, but now as a crawling infant, outside of the body of the female, defined as a baby-child, symbol: Bc or Bc₁ (first born child), as shown below, within the nuclear family orbital, but still in close proximity to the mother, still in the breast feeding stage:



If we now skip to the period shortly after 7 Dec 1750, the day of the birth of Goethe's younger sister Cornelia, symbol Bc_2 , shown below right, close to the home orbital, we now have a tetra-humanide molecule, or four people bonding into a family:

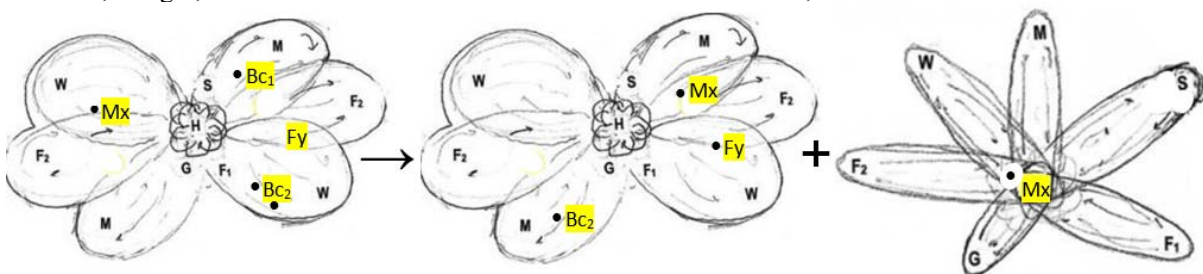


We also note that young Goethe Bc_1 , aged 1, is beginning to move a bit father away from the nucleus, while still being within proximity to the mother's main activity orbital.

Now, the point to keep in mind here, is that from the so-called 'formation energy' perspective, a logic pioneered by Gilbert Lewis (1923) for chemical species, and shown to be applicable to human species by Norman Dolloff (1975), wherein the state of each bound structure is quantified by a Gibbs energy of formation, from the elements at standard state, young Goethe Bc_1 is still part of the parental structure, still in the womb of the family orbital, so to say, chemical thermodynamically speaking.

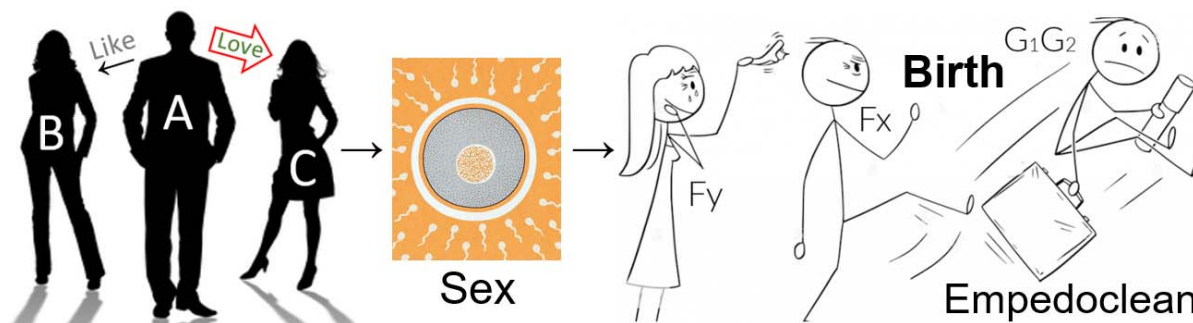
Subsequently, in the formation energy view, it is not until the child Bc_1 breaks off from the family orbital, and begins to become his own man, wherein Bc_1 becomes a new Mx, with his own orbital structure. In Goethe's case, this occurred on 3 Oct 1765, when, at age 16, Goethe entered University of Leipzig, and started to read law, and completed further lessons on drawing with Adam Oeser.

This familial orbital separation process, for Goethe is shown below, wherein, Goethe, while attending college, detaches from the tetra-humanide structure, below left, forming his own new mono-humanide structure, at right, after which a reformed tri-humanide structure is made, shown below middle:



It is at this point, physico-chemically speaking, when Goethe begins to feel 'alive', himself beginning to become his own person, outside of the family orbital.

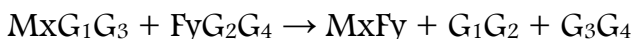
The so-called condensed overall reaction mechanism, as organic chemists refers to things, of what we have just covered is summarized below. The boot to the father kicking his son out of the house is what is called the Empedoclean birth, similar to the doctor giving a spank the newly-emerged infant so to get him to start breathing:



Certainly, not all children will get kicked out of the house in such cartoonish manner. Many, in fact, will run out of the family structure at the first available chance. In other cases, the mechanism will be more involved. In terms of averaged over time orbital tracking data, we can state that when the child begins to only semi-frequently visit or stay at the parental home orbital, that Empedoclean detachment has occurred. Yet, if we attempt to anthropomorphize this, as say that this ‘booting’ out of the house process, is when ‘life’ starts, we arrive at objectionable nonsense, which points to the need for terminology reform.

In this example, no doubt, during this stage, Goethe, at age 16, when Leibniz University, was still being funded for college, by his parents, and hence not completely detached from the familial orbital. It is only, however, when a person becomes completely independent, financially speaking, that they become a new humanide molecule, as per the law of thermodynamics define things, in respect to formation energies and chemical reaction mechanisms. In this new Empedoclean-Goethean molecular orbital perspective, the premise of a life starting at some particular point becomes obviated.

In 1772, Cornelia Goethe, aged 22, gets married, and hence she, by that time, had left the family orbital structure of the house. The overall mechanism, Cornelia, symbol: G_3G_4 , her detachment point included, is as follows:



Goethe, by this time, aged 23, had already received his law degree, was a practicing lawyer, and courting all the available women of the town. The film *Young Goethe in Love* (2010) gives a pretty good summary of Goethe during this period.

The take away point, is that from 1747, when Goethe’s parents would have been in the courting or engagement stage, to 1772, constitutes of 25-year reaction mechanism. Efforts to insert anthropisms of life, death, and birth into this twenty-five-year human chemical reaction mechanism, only leads to what Alfred Lotka calls ‘scientific jabberwocky’, and hence objectionable nonsense, from the physico-chemical point of view.

10.4 | Beg-Thims dialogue

Originally, to note, the first three seeds of the life terminology reform, actuated when Thims, in about 2010, began to make the online Goethe timeline, some dates of which discussed in this chapter. The timeline was divided into five parts: pre-existence, ‘reaction start’ (BIRTH), period of existence (LIFE), ‘reaction end’ (DEATH), and post-existence, as shown below, with the number of events being those added at the point of Hmolpedia 2020 edition:¹

Pre-Existence	Reaction Start	Reaction Existence	Reaction End	Post-Existence
	28 Aug 1749		22 Mar 1822	
	Age: 0		Age: 82	
2 events: Grandparents Parents	1 event: Womb emergence	85 events: Event #52 (3 Oct 1809): Published <i>Elective Affinities</i> , his ‘best book’, as he later reported.	1 event: Last words: ‘more light’	45 events: Event #31 (2006): Thims discovering Goethe.

The three key header boxes are shown bolded above, namely: reaction start, reaction existence, and reaction end. Prior to making this table, Thims had not actively engaged in any sort of proactive or forward direction terminology reform, in public print. At this point, however, in honor of Goethe, who initiated the physico-chemical philosophy of humans, and who was one of the first to broach the what is life questions, when scaled down to the chemical level, in the evolution point of view of human origins, Thims took it upon himself NOT to use the standard birth, life, and death terminology definers, generally employed as standard

terms to define the various existence stages of a person, but instead to introduce new so-called physico-chemically neutral terms, namely: reaction start, instead of ‘birth’, reaction existence, instead of ‘life’, and reaction end, instead of ‘death’, as these can be applied up and down the chemical scale of existence, hydrogen to human, without much objection or semantic confusion.

In 2014, the Goethe birth or life start question arose in the two-month debate between Thims and Mirza Beg, author of *New Dimensions in Sociology: a Physico-Chemical Approach to Human Behavior* (1987), in respect to physico-chemical point of view of humans in society defined as chemicals or molecules. Thims, in respect to the question of ‘life’ not being definable in terms of the physico-chemical view, opened the Goethe life start point question to Beg as follows:⁴

“Beg, said another way, if you prefer not to digress on yourself, in **what year did Goethe, in your view, come ‘alive’?** Possible answers, from you, might include: the hour his parents, Johann Caspar Goethe (1710-1782) and Catherina Elizabeth Goethe (1731-1808), had intercourse (sex), calculated to have occurred at noon on 21 Dec 1748, see Goethe timeline sketch.

Thims continued:

“A process which leads to the five-step mechanism by which the interaction of the sperm and the egg to form zygote generally proceeds, or the hour at which he emerged from the birth canal, which he says occurred at noon on 28 Aug 1749, and took his first breath, or the year he reached the age of one, which occurred on 28 Aug 1750, being that some cultures don’t recognize infants as people until they reach the age of one, or some other hour or day, e.g. when the brain begins to form (week three), when blastocyst that will be the baby splits to form the placenta and the embryo (week four), when the heart begins to beat (week five), when the embryo begins to move in the womb (week eight), when embryo turns into fetus and begins breathing-like movements (week nine), when the fetus begins to have eye movement (fourteen weeks), when fetus begins to feel pain and suck their thumb (twenty weeks), when fetus begins to dream as evidenced by REM (week twenty-six).”

Thims continued, in respect to pre-conception models of when life possibly could have started, theoretically speaking, in the physicochemical sense of say a single photon striking the retina of the eye of Goethe’s father, and therein triggering the start of the reaction:

“Or possibly some time before inception, e.g. the second when his father first *fell in love*, at first sight, with his mother, light (electromagnetic field in 400-700 nm range) being the trigger to surpassing the activation energy barrier to this reaction, which would have occurred on or about the year 1746-47 (pair married on 20 Aug 1748), or alternatively, as Francis Crick intuitively, one is never alive at any point in one’s reaction existence?”

— Libb Thims (2014), “Beg-Thims dialogue” (post #144), Hmolpedia threads, Jul 28

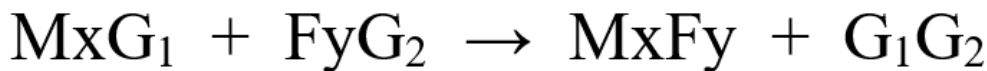
Prior to this, one can argue that the ‘life’ of the child started when the person, say Goethe’s father, possibly being at the right stage in existence, financially, decided that it was time to mate, and therein to supposedly ‘choose’ to fall in love, made the mental or conscious decision. We can then regress backwards from here, in respect to what exchange forces gave way to the force of the will behind the choice. This can then be traced back father, to argue that young Goethe was actually born or became alive, back in the working forces of the mind of Friedrich Georg Goethe (1657-1730), Goethe’s grandfather, say in 1709 when Goethe’s father was conceived. The argument can then be regressed further back, given more data.

The long and the short of this long-winded digression, is that when the force moves the body, to make the choice, willingly or not, to have sex, the product of the distance through which the body moves to fulfill the sexual act, yields a quantity of energy, defined as sexual work, measure in units of joules. These units of joules, according to the conservation of energy and the first law of thermodynamics are conserved in the universe, and the joule does not recognize life nor a life start point, in and around the act of human sexual reproduction.

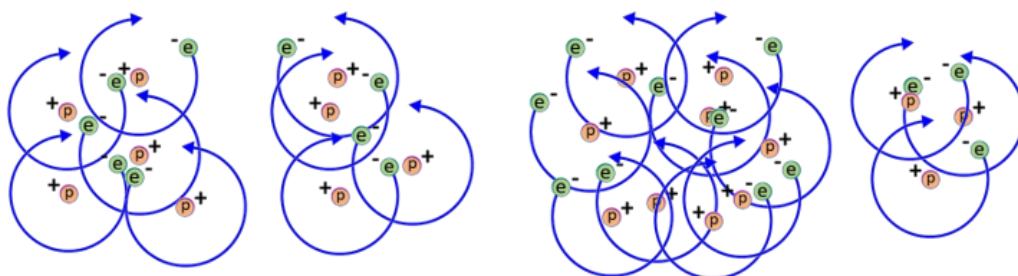
10.5 | Weiss proton-electron view

In an alternative sense, we can also look at the picture of the reaction process, of the formation of a new human, according to the so-called proton-electron geometrical view of Albert Weiss, as outlined in his *Theoretical Basis of Human Behavior* (1925), wherein humans, married couples, children, trees, rocks, and societies are all defined as simply being *proton*, symbol p^+ , and *electron*, symbol: e^- , configurations, as shown below, aka proton electron geometries:³

Goethe
Human
chemical
reaction
view
(1809)

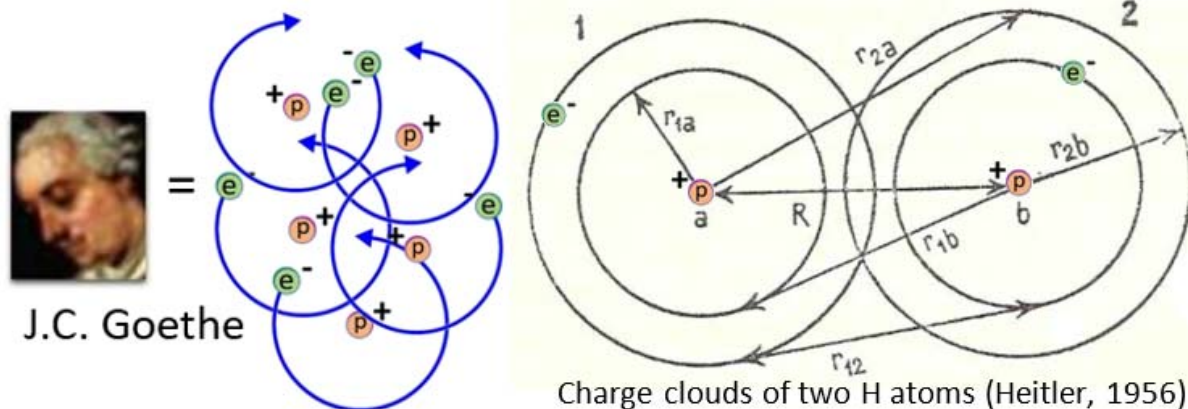


Weiss
Proton
electron
geometry
view
(1925)



In the Weiss model, of note, we are missing the *neutron*, symbol: n , from this simplified picture, as this wasn't discovered until 1932. Needless to say, the Weiss model is essentially correct, as neutrons are just transformed neutral protons. Also not shown above is the *photon*, symbol: γ , is missing from the picture, its basic mechanism of operation illustrated below, which is the force carrier that makes the protons and electrons 'move'; and hence, accordingly, people 'move', as far as we currently understand things.

Of note, picture of a person, such as 'J.C. Goethe', shown below left, J.W. Goethe's father, as a blob-like picture of swirling or spinning proton-electron units, is rather crude, to say the least:



Charge clouds of two H atoms (Heitler, 1956)

The issue here is that the state of knowledge in his area of study is rather crude and in the elementary stages itself. Above right, e.g. is a diagram of the charge clouds of two hydrogen H atoms overlapping, owing to an 'exchange energy' that arises via the spin nature or spin functions of the two electrons, which results in an energy lowering effect in the system, thereby actuating the chemical bond, therein forming the 'H molecule', as described in Walter Heitler's from *Elementary Wave Mechanics: with Applications to Quantum Chemistry* (§9: Theory of the Homopolar Bond). Heitler, the person who, in 1927, discovered, on the basis of wave mechanics, the mechanism of the 'exchange force' (or exchange energy) model of chemical bonding, says the following:

"One of the **great puzzles** confronting physicists and chemists, in the days before wave mechanics was found, was the problem of the chemical bond."

— Walter Heitler (1956), *Elementary Wave Mechanics* (pg. 123)

Then, after discussing the ionic bond, covalent bond, and "van der Waals forces", he states that the reason for the formation of the 'H molecule', symbol: H_2 , is because of the "exchange energy" lowering effect that results from the overlap of the electron orbitals; specifically:

"The total energy of the system will then differ from the sum of the internal energies of the two atoms, i.e. twice the energy of the ground state of H, by a certain 'interaction energy', $E(R)$, which will depend on the distance R ."

— Walter Heitler (1956), *Elementary Wave Mechanics* (pg. 124)

Things, since 1956, have progress little beyond this point, in respect to the wave mechanics of large molecules, say in the DNA+ range of molecular size. Thims, in fact was the first, in his 2007 *Human Chemistry*, to apply the Heitler bonding model to humans, conceptualized in wave form and or orbital form. Hence, the crude 'proton-electron blob' image of J.C. Goethe, shown above.

Thus, knowing, to the best of our knowledge, that the proton and electron are not alive, and likewise neither are the neutron and photon alive, and also knowing that the absorption, emission, and exchange of photons between the electrons, is what causes or actuates ‘movement’, and the various animate geometries formed therefrom, we must ask: why should we define one type of photon-induced *proton-electron geometry* to be alive, and not another? Takes some time for this to digest.

The four bound state geometries in discussion, namely: MxG_1 and FyG_2 , Goethe’s mother and father when in the ‘single state’, before they met or were arraigned for marriage, and $MxFy$ and G_1G_2 , Goethe’s parents in the bonded married state, and Goethe, as a newly formed child, at the detachment from the parental structure point in time, are each simply proton electron geometries being moved in spacetime, in short, in the Weissian view of things. If the single hydrogen atom is not alive, then neither can any of the animated spacetime geometries derived therefrom be either.

The solution to the confused premise that Goethe had to come ‘alive’ at some specific point in time, in the above mechanism, in short, is to be found in the nature of the ‘words’ and ‘terms’ used to describe these phenomena.

In sum, if the words and terms we used to describe extant phenomena are based on first principles and or experimental or evidenced based reasoning, then we keep them. If they are based on *anthropisms* (Sherrington, 1938) and mythology, then we either discard them or reform them. Most of this book will be concerned with reforming terminology. As Goethe famously said: ‘there is, after all, only one nature’. Hence, there has to be one language to describe the nature observed animated movement seen in all proton electron geometries. As knowledge of nature grows, so to must our language grow, in correctness, reform, and so-called re-definitions (Pearson, 1892), to keep pace with the former.

10.6 | Life between electron levels?

Before proceeding, in reference to the preceding section, where discussion was made about electrons, energy levels, and life, we will but note that this type of talk invites or attracts both theists, deists, and atheists, who may want to hold on to the cherished and comforting notion of life as a real thing. A noted example is found in the works of Albert Gyorgyi, who attempted to defined life in terms of the location of electrons; for example:

“Life is nothing but an electron looking for a place to rest.”

— Albert Gyorgyi (c.1950), *Source*

This quote has recently become popular, e.g. as cited in Nick Lane’s 2010 *Life Ascending* (pg. 288), and in Sean Carroll 2016 “What is the Purpose of Life?” article and video. Gyorgyi’s famous riddled motto was: ‘there is no life, as such’. A noted follower of his is Mae-Wan Ho, whose spent three decades thinking about the possibility that life could be defined between two electron orbitals:

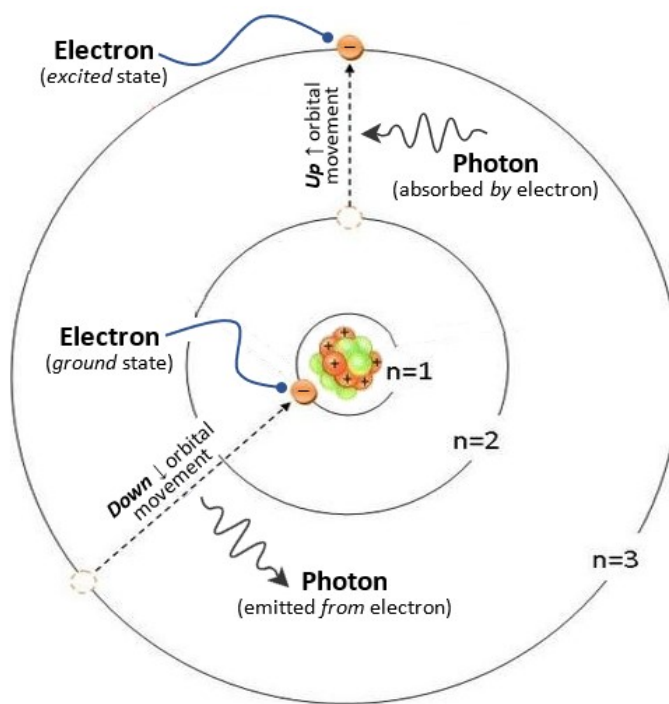
“This book, *The Rainbow and the Worm*, began 30-years ago, when as a young undergraduate, I came across Gyorgyi’s idea that life is interposed between two energy levels of the electron.”

— Mae-Wan Ho (1993), *The Rainbow and the Worm* (pg. ix)

Here, Mae-Wan Ho is a new ager and Sean Carroll is a public atheist, yet they both want to cling to the theory of ‘life’, so much so that they are willing to look into one of Bohr’s orbitals to find it? The razor sharp mind has to be on guard against these enticements. There is no ‘first principle’ behind the four letter world ‘L I F E’, and attempting to look for such a principle in the subatomic range, only works to increase the weeds in the garden.

10.7 | Moral ramifications

The implications of abioism, or the non-existence of a life start point, in respect to conception or the origin of a person, or when personhood is attained, leads to so-called thorny implications. First and foremost is the



heated ‘pro-choice vs pro-life’ debate. The latter will argue, generally on a religious platform, that ‘life’ is the most important thing in the world, and that it should be preserved above all costs, no matter how great, or no matter what the objections are, be it objections such as rape, incest, fetus abnormalities, maternal mental health issues, among dozens of others. The former will argue that the parents should be legally allowed to ‘choose’ to have an abortion if the situation warrants it.

One recent take on this, by Joshua Greene, who studies the implications of neuroscience research in moral philosophy at Harvard, is as follows:

“Does god attach the soul when the head of sperm makes contact with the zona pellucida? Or does ensoulment occur when the sperm hits the cell membrane? Is it enough for all of the sperm’s genetic material to enter the egg cell? Or does god wait until the male pronucleus and the female pronucleus have fused? All the way fused, or partway? Whatever it is that makes people worth of moral consideration, these things don’t all appear in one magic moment. Without a ‘magic moment’ to believe in, **pro-choicers** simply have to *draw the line* somewhere, while acknowledging that the line they’ve drawn is somewhat arbitrary.”

— Joshua Greene (2013), *Moral Tribes* (pg. 326)

Here, to clarify, the ‘soul’ does not exist anymore than ‘life’ exists. Disbelief in the ‘soul’, aka *asoulism*, however, is a subject that has already vetted, vented, addressed, and experimentally disproved. The first experiments to test for the existence of the soul were conducted by: Frederick II (c.1230), Margaret of Navarre (c.1540), and Duncan MacDougall (1901).⁵ Avowed asoulists include: Jean Meslier (1729), Julien Mettrie (1745), Francois Broussais (c.1820), Thomas Edison (1824), Kurt Bell (2011).⁶

Moreover, 2016 polls of teenagers in secondary students in England, show that 23 percent believe that humans do NOT have souls.⁷ The correlative polls showing teenagers, anywhere in the world, stating in the affirmative that humans do NOT have ‘life’, however are non-extant.

Morality, however, is not the focus of this book. Though, do be aware, as we progress, that established cultural theories about: life, soul, and morality are intertwined. The roots of this intertwinement traces back to the Greeks, who acquired their models from the Egyptians. Hence, the word Greek word ‘anima’ can mean: motion, life, or soul, depending on translator and interpretation. Herein, our focus will be on the fact that attempts to define the origin of life, scientifically, especially in terms of physical chemistry and chemical thermodynamics, lead to complete bend-over-backwards objectionable nonsense. The conclusion is that life, similar to ether, is something that does not exist. Ramifications of this, will be left for future research.



Synopsis: From the point of view of chemical reactions and formation energy, Goethe, defined as a chemical species, according to his own theory, never was alive.

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11. Vis ‘force’ of Venus = Vita ‘life’

“According to at least one Roman writer, *vis* and *vita* may be both elements of a traditional collocation and derivations of the same root. Varro’s claim that the ‘**vita**’ is given to children by the ‘**vis**’ of Venus may be an implicit etymology.”

— Jay Fisher (2004), *The Annals of Quintus Ennius and the Italian Tradition* (pg. 152)

Chapter point: digress on Marcus Varro’s 50BC statement that the Latin term ‘vis’ means force of the goddess Venus, and that those who have ‘vis’, have what is called ‘vita’ or *life*, which is the modern English translation of *vita*. [length: 5-pgs]

In 60BC, Lucretius, in his *On the Nature of Things*, was using the name of the goddess Venus as a poetic license for either force of heat or sunlight, or ‘force of love’. Venus, as touched on, was the goddess who gave ‘life’ to the Roman people.

Lucretius, in his section Epicurus (§1.62-74), explained how he considered Epicurus to have been the first ‘mortal man’ of the Greeks to dare affront the gods and the religions of the priests, specifically by employing his *new nature* view that all of the phenomena of the world is the result of atoms moving in a void. To do this, Epicurus had to break through the barred or bolted gates of the so-called ‘old nature’ or the old way of viewing the world. Epicurus broke through the gates of the old nature, as Lucretius poetically tells us, with the *force* of his mind.

The term ‘mind’ is known by the Latin term *animi*. The related term *anima* is what known as either ‘soul’ or ‘spirit’, depending on translator.¹⁰ The term *anim*, root of both, is what we now refer to as *animation*, be it an animate robot, animate person, or animate thing.

This *animi*, presumably, according to the Romans, or least Lucretius and others, e.g. Cicero, who praised Lucretius’ poem, was defined as the ‘thing’ in the human body, according to the Romans, that yields or produces animation, or that which caused Epicurus, as an atomic structure, as Lucretius and Epicurus viewed humans to be, to ‘move forward’, as the Lucretius poem tells us, in his action of overthrowing and braking down the barriers of the old religious view of nature. The following shows the original Latin and three different English translations:

#	Lucretius (60BC)	Google (66AE)	Leonard (1916)	Johnston (2010)
71	naturae primus portarum claustra cupiret.	Nature first barred gates.	His dauntless heart to be the first to rend; The crossbars at the gates of nature old.	he roused his spirit’s keen intelligence, to answer his desire to be the first, to break the narrow bolts of nature’s doors.
72	ergo vivida vis animi pervicit et extra	the vigor of mind prevailed, and he	And thus his will and hardy wisdom won;	And so the living power of his mind
73	processit longe flammanitia moenia mundi	Beyond the fiery walls of the world	And forward thus he fared afar, beyond	won out, and he <i>moved forward</i> , far beyond
74	atque omne immensum peragravit mente animoque,	and that the entire traversed the boundless mind and soul elevated,	The flaming ramparts of the world, until	the flaming bulwarks of the world, and then,

The two key terms, in the poem, that cause confusion are: ‘vivida’ and ‘vis’. We see that jointly the term ‘vivida vis’, renders as either: vigor, will, or living power.

11.1 | Venus gives life

The terms *vivida* and *vis*, etymologically, both derive from the myth of the goddess Venus, the Roman goddess of love. Generally, as Romans believed in this period, a thing that was considered alive, was because it was given the ‘vis’ of Venus, which was conceptualized, in modern terminology, as the force of goddess Venus, or the force of love, so to say, depending on one’s point of view.

In the adjacent advert for Corona beer, we see the tag line being the Spanish phrase ‘La Vida Mas Fina’, which means: ‘the finest life’, shown above two people relaxing on a beach. To understand what exactly this term ‘vida’ (Spanish) or *vita* (Latin) or ‘life’ (English) means, we will consult Marcus Varro’s *On the Latin Language* (50BC). In this work we find the following telling etymological information:

“The poets, in that they say that the very seed fell from the sky into the sea and Venus was born ‘from the foam masses’, through the conjunction of **fire** and **moisture**, are indicating that the **vis** or ‘**force**’ which they have is that of Venus [Aphrodite]. Those **born of vis** have what is called **vita** [Vida], or ‘life’, and that is what is meant by Lucilius (c.120BC) when he says: ‘**life is force** you see: to do everything force doth compel us’.”

— Marcus Varro (50BC), *On the Latin Language: On the Science and Origin of Words, Addressed to Cicero, Volume One* (pg. 61)²

In equation form:

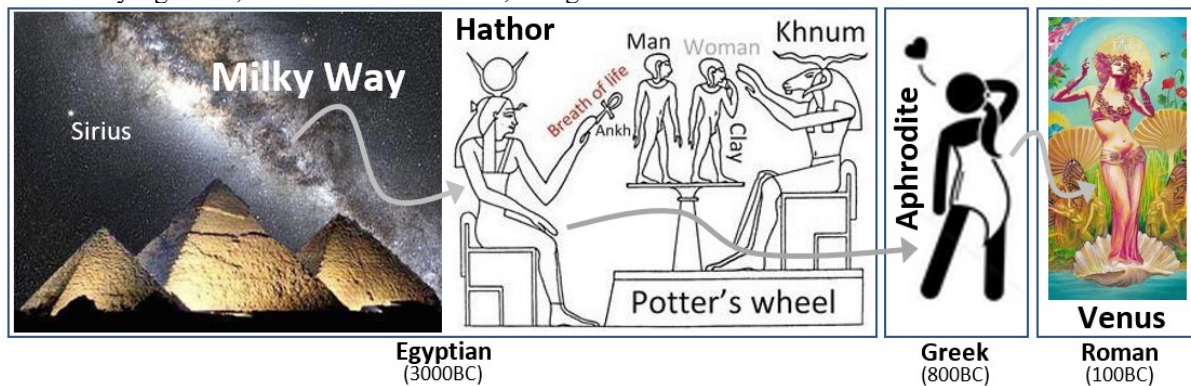
Life = Vita [Vida] = *Vis* of Venus

Hence, according to Varro, in about 200 to 600 BC, Roman intellectuals taught their children that life is a thing that comes from or is the result of the ‘vis’ of Venus, or force of a goddess. The mythical reasoning being the story that all Romans are children of the brothers Romulus and Remus, who are the sons of Aeneas, who was the offspring of the Trojan prince Anchises and the goddess Venus.

Life, speaking non-mythologically, according to this view, is a phenomena, process, or state of existence, that is the result of force. This is basically the correct modern picture of things, say in respect to the formation of newborn human baby or growth of a plant. Both are carbon-based structures forced into an extended state of motile animation, for so many months or years of cyclical solar heat, light, and gravitational forces, mixed.

Force, however, in these centuries, was regarded, mythically speaking, as a ‘divine force’, i.e. in some way derived as a force or power from the goddess Venus. Venus, concordantly, is the Roman rescript of the earlier Greek goddess Aphrodite. Aphrodite, in turn, is the Greek rescript of the earlier Egyptian goddess Hathor. Hathor, in turn, is the Egyptian anthropomorphism of the Milky Way.

In the Egyptian myth, it was the magical cross-shaped ankh “♀” symbol, when put to the mouth of human clay figurines, as below above middle, that gave humans life.⁶



This model, in turn, was based in some way on the Egyptian belief that the sun, originally conceptualized as the god Horus, in its yearly movements through the constellations, had to move through the milk of the Milky Way, i.e. body of Hathor, before being given ‘life’, and being reborn on Dec 25th, out of the womb of Hathor, who was conceptualized, in the sky, as a star comprised or shaped cow, full of milk. The pointing of the ankh to the mouth of the newly formed clay humans, presumably, as the Egyptians believed, somehow put the goddess life force, of the starry light of the Milky Way, into the *inanimate* clay bodies, thereby making them or transforming them into *animalium* or ‘animate clay bodies’, which the Egyptians would have considered as a ‘living human’ as people in modern day believe. The gist of the vis of Venus equals life model is shown below:





Certainly, we agree that the right women can indeed put what we would formerly call a 'life force' into a man and energize him into actively engaging in a multi-decade so-called charged reaction existence. We, however, are presently, at a period of enlightenment, that we can no longer continue to describe this exquisite state of existence, using mythological terminology.

Attempts to define terms such as: life, alive, or living all etymologically and conceptually derive back to this 5,000-year-old ancient mythology, intertwined with ideas on gods, goddess, heat, and sun light. Heat and light, however, are not gods. The modern person, accordingly, who (a) believes they *are* alive, (b) believes in evolution, (c) does NOT believe that the hydrogen atom is alive, (c) does NOT believe in god or anything supernatural, is (d) faced with inexplicable problem of having find the point in time, between the formation of the *not alive* hydrogen atom and the *presumed to be alive* human, i.e. when the first thing became 'alive' in the course of evolution, all the while being (e) abysmally ignorant of the fact that the term *alive* means force of a goddess, be it Venus, Aphrodite, or Hathor, or will, gift, or thing created by a god.

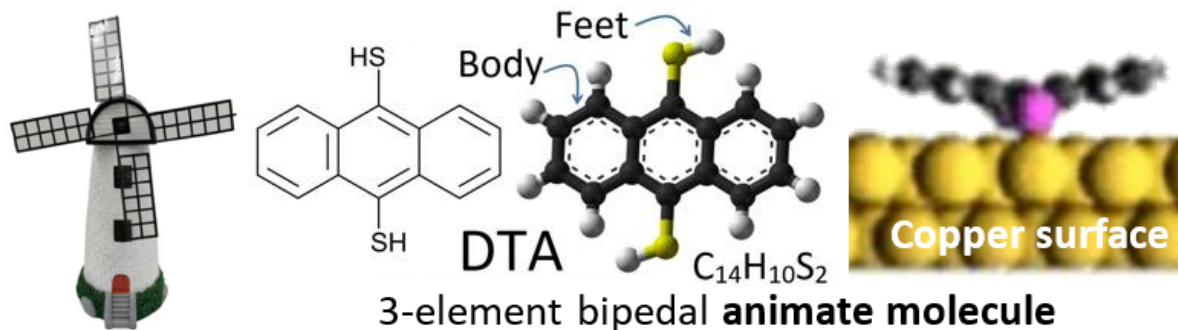
11.2 | Animantum = *animate* or living things?

The Latin term **animantum**, from lines 1-5, translates directly, via Google translate, as 'animate things', listing animal as second option. This, by itself, poses no problem. There has been no debate, in the last four centuries, e.g., as to what an 'animal' is, or for that matter what an animate thing is. There are, e.g., no published lectures-turned-books entitled *What is Animation?* in the world's libraries, as compared to the vexing amount of published lectures-turned-books entitled *What is Life?*

The term 'animate', to clarify, etymologically derives from the Greek *anemos* (άνεμος) meaning 'wind'. Wind blows on a windmill and blades turn to make an animate structure, which can turn a wheel, to do work, e.g. grind corn grain. There is nothing confused about this. The following are two examples of animate things, namely a retinal molecule; located in the retina of the human eye, that bends and straightens its molecular geometry in reaction to light; a Boston Dynamics robotic dog, a silicon brain based type of powered animation, that can pull things, run, and jump over obstacles, nearly like a real dog:¹¹



Two other animate things include a windmill spinning, which can convert the power of wind into the work of grinding grain, and DTA molecule, which is CH-based type of laboratory synthesized animate walking molecule, which can step along on a copper surface heated or lured with electric charge:



Another popular example of an animate thing, often discussed in abioism circles, e.g. Ferris Jabr's 2014 *New York Times* article 'Why Nothing is Truly Alive', is the so-called 'strand beast', or *strandbeest*, meaning: 'beech animal' in Dutch, which are types of wind-powered waking animations, made from PVC, wood, or plastic, invented in 1990 by Theo Jansen. The original version were horse-sized animations that were made to walk or crawl along the beaches of the Netherlands.

Adjacent we see toy model example of one, that can be purchased on Amazon for about \$9, and assembled in about 30-minutes. The one shown is made with rubber feet, bending joints, crankshafts, a fan-blade (turbine) turning mechanism, and when put out on a surface on a windy day, on a table with the fan blowing or blowing on it with your mouth, it walks along the ground like a creepy but interesting crawling spider-like 12-legged centipede.

"Is it right that life is tied in this way to autonomy and problem-solving, to self-sustaining activity? Are living beings just machines that, within limits, can keep themselves up and running? Is the difference between Jansen's strandbeests as they exist today and their descendants that might someday patrol the coasts of Holland just a matter of degree? Or is life qualitatively different?"

— Alva Noe (2013), "Beach Beasts on the Move", NPR.org, Aug 9



The reader is encouraged to watch a few videos of these strandbeest beach animals walking, both model sized and the larger 20-foot beach versions, to get a mental picture of 'wind' in respect to animation, mechanism, motion, walking or crawling in particular. When watching one in motion, on the beach or on a table, so one can see the entire mechanism of movement in respect to motion.

The movement of the strandbeest, however, to note is classified as simple matter and motion mechanism. Here, there is no change of chemical bonding involved. Animal motion, conversely, is classified as into the class of matter, motion, and *reaction* mechanism. When reaction is involved in the mechanism of the animated movement, bonds, by definition, have to break or form. Bonds, in turn, are storage locations of energy.

Our present thoughts on the strandbeest, in respect to life, is equivalent to Descartes thoughts on the popular French water-powered automatons. Specifically, between 1598 to 1617, the brothers Tommaso Francini and Alessandro Francini, hydraulics engineers and garden designers, used the flow of water from a nearby river as the motive force to power various animations, such as: an organ player, Neptune, and Hercules, among others, the largest of which being an animation where Perseus, fully armed with a sword, descends to slay a dragon that rises from the water. Descartes commented the following on these:

"These functions [digestion, beating of heart, growth, respiration, waking, sleeping, etc.] follow in this [human] machine simply from the disposition of the organs as wholly naturally as the movements of a clock or other automaton follow from the disposition of its counterweights and wheels. As far as these functions are concerned, it is not necessary to conceive any other vegetative or sensitive soul, nor any other principle of motion or of life, than the blood and the spirits agitated by the fire which burns continually in the heart, and which is in no wise different from the fires which exist in inanimate bodies."

— Rene Descartes (1633), *Treatise on Man*

Later, Descartes, in his *Discourse on Method* (1637), concluded that a human was matter-and-motion based automaton, similar to the Francini automatons, but with a soul, which allowed for choice. Herein, we are building on Descartes models, albeit without the 'life' and without the 'soul' aspects of his model of matter and motion based humans.

11.3 | Anima / Animi = mind, soul, or spirit?

Related to the previous discussion, the root Latin term *anima*, often gets rendered in English as 'soul', e.g. Google renders the term 'mente animoque' (line 74) above into 'mind and soul'. Digression into how the Greeks, e.g. Aristotle, understood the term 'anima', with reference to what they learned about the Egyptian soul model, is not an area we want to broach here. Online analysis of just lines 129 to 131, namely: "qua fiant ratione, et qua vi quaeque gerantur, in terris, tunc cum primis ratione sagaci, unde anima atque animi constet natura videndum", of Lucretius' of *On the Nature of Things*, of 10 different translators, yields ten different renditions of what the term *anima* and *animi* render as in English. The concluding analysis of these ten translations are the following results:¹⁰

	Creech	Mason	Watson	Baring	Bailey	Leonard	Latham	Copley	Melville	Johnston
	(1682)	(1851)	(1851)	(1884)	(1910)	(1916)	(1951)	(1977)	(1999)	(2020)
Anima	Soul	Soul	Soul	Soul	Soul	Mind	Spirt	Soul	Spirit	Soul
Animi			Mind	Mind	Mind	Soul	Mind	Mind		Mind

In short, *anima*, when used singly, tends to get rendered as 'soul', *animi*, singly, gets rendered as mind, and the combined translation becomes soul:

- **Anima** (split usage) translates as: soul (71%), mind (14%), or soul (14%).
- **Animi** (split usage) translates as: mind (86%) or soul (14%).
- **Anima / Animi** (combined meaning) translates as: soul (67%) or spirit (33%).

Our argument here, however, is not with the word *anim*-terms. It is a matter of modern cultural status quo that when a thing, such as Jansen's wind-powered beech animal, is referred to as being animate, we do NOT conditionally assume that a 'soul' is behind the operation of its movement. This logic holds for humans as well.

The ramifications of this discernment, however, takes us into the domain of the moral symbols of physical chemistry, as Goethe called them, which is beyond the scope of the present booklet. In other words, what the Greeks referred to as the *anima* is what many people now refer to as the 'soul', believed to be the location in the mind where the act or mechanism of 'choice' operates, and that this choice is powered by the 'self', and that the nature of this 'self' defines the so-called *moral* (MOR-al) nature of the individual. As the term 'mor' refers to the Roman god of death Mor, and as 'life', as we argue herein does not exist, then by repercussion, 'death' does not exist. The ramifications of this new view, in turn, throws the entire basis of ethics or the system of right and wrong choice, based on the god Mor, and in turn the premise of soul or soul weight, out the window.

The solution to this seemingly newly-opened dilemma, is found in what are called the endergonic and exergonic nature of actions and reactions resulting from each choice. This topic of discussion, however, is not the focus of this book.

Here, we simply point out that what is 'anima', refers to things that are powered-in-motion, be it Jansen's *wind*-powered walking beach animal or a *heat*-powered walking human. The key point to keep in mind is that *anima* or *anemos* (άνεμος) in Greek meaning 'wind', and that this is the root etymology of the word animate, and that wind is a real thing.

Synopsis: Vis means 'force' of Venus. Life or *vita* means body in possession of *vis*.

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12. Living Force (1673) → Kinetic Energy (1862)

“The term *vis viva* may be deemed by some inappropriate, inasmuch as there is ‘no life’, e.g. in a bullet fired, cannon ball flying, or a train moving, **properly speaking**.”

— James Joule (1847), ‘On Matter, Living Force [*Vis Viva*], and Heat’

Chapter point: Discuss how the neutral terms *potential energy* and *kinetic energy*, in the years 1853 to 1862, replaced the becoming defunct un-acceptable 17th century terms ‘dead force’ and ‘living force’, respectively. This successful transition is the basic role model for how the future will deal with abioism terminology reform. [length: 5-pgs]

In the 17th century, in the laws of motion experiments of Galileo, Descartes, Huygens, and Leibniz, such as when a massive ball is dropped from a height, or when two balls collide, or when a ball is rolled down an inclined plane, these scientists began to employ Latin terms to describe what they were recording and observing in terms of rates of change of motion.

The two key terms of importance, employed by these thinkers, were *vis viva*, which generally renders as ‘living force’, and *vis mortua*, which generally renders as ‘dead force’. In simple terms, when a large rock is at the edge of a cliff, it has no motion and in a sense is a dead force mass. Yet if we push the rock over the cliff, it will accelerate towards the ground and therein, while in motion, seem to possess a ‘moving force’ of some sort. The etymology of each term is as follows:

Vis	Force of Venus
Viva	Life given by Venus
Mors	Force of Mor
Mortua	Death taken by Mor

Venus is the Roman goddess of life. Mor is the Roman god of death. Hence, in the years 1592 to 1673, these ancient myth-based Latin etymologies had soaked through into science terminology. Galileo was using the term *peso morto* (dead mass) in 1638 and Leibniz was using the term *vis mortua* (dead force) in 1673 and *vis viva* (living force) in 1686, give or take a year. The following is the basic outline as to when and for what function these terms began to be employed:

Vis Viva

- | Galileo’s *Momento* (1592)
- | Descartes’s momentum (c.1640)
- | Huygens’ conserved collisions (1669) | mv^2
- | Lagrange’s half factor (1788) | $T = \frac{1}{2} mv^2$
- | Vis viva → Actual energy (Rankine, 1853) → *Kinetic energy* (Thomson, 1862)

Vis Mortua

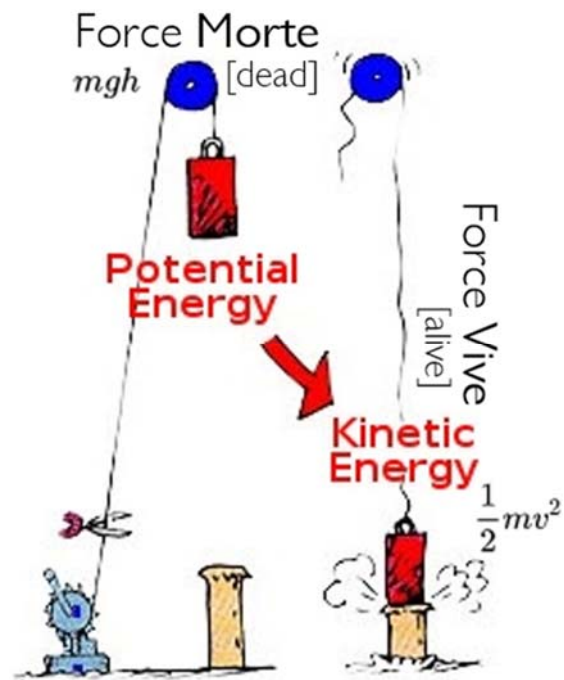
- | Galileo’s *Peso Morto* (1638)
- | Leibniz (1673)
- | Vis mortua → Latent energy → *Potential energy* (Rankine, 1853)

Here, we also see that in 1853, the term *vis mortua* was upgraded to the term ‘potential energy’, by William Rankine, and that in 1862, the term *vis viva* was upgraded to ‘kinetic energy’, by William Thomson. How this upgrade in terminology arose, in just this one area, in respect to these two terms (*vis viva*, *vis mortua*) is an involved historical account, which we will not digress on.

In sum, in 1686, Leibniz for the quantity of the mass m of a moving object and the square of its velocity v^2 , by the name *vis viva*, as follows :

$$\text{vis viva} = mv^2$$

Shortly thereafter, *vis mortua* came to be defined as the product of the mass m of the body times its height h above the surface of the earth, and the gravitational constant, as follows:



$\text{vis mortua} = mgh$

In 1730s, Daniel Bernoulli defined *vis mortua* as the force “which a body not in motion receives when solicited or pressed towards motion.” Charles Hutton defined *vis mortua* in 1815 as “any kind of pressure, or an endeavor to move, not sufficient to produce actual motion, unless its action on a body be continued for some time.”

12.1 | Living force + dead force = constant?

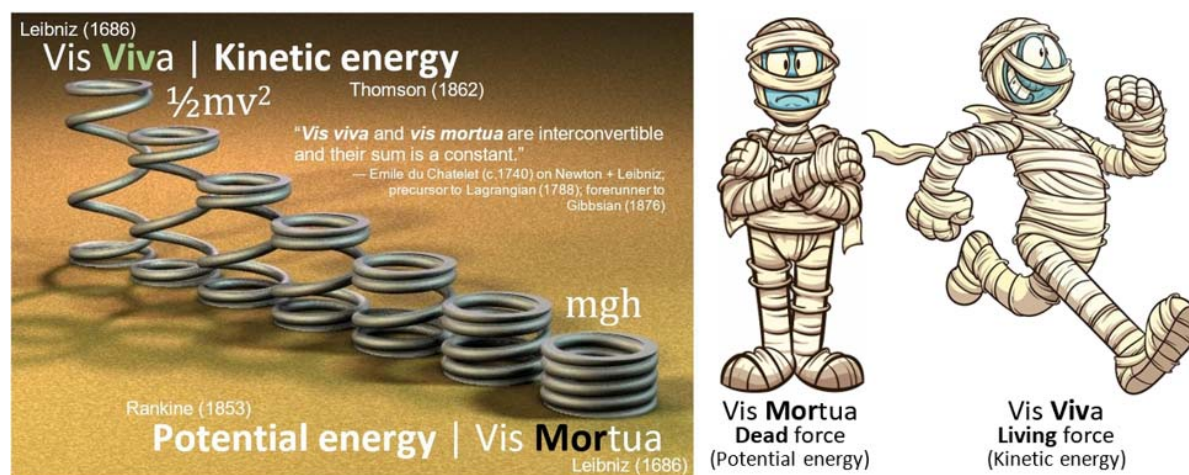
In c.1740, Emile Chatelet, during her translation of the work of Newton into French, stated that *vis viva* can be converted into *vis mortua* and that their sum is constant:

“*Vis viva* and *vis mortua* are interconvertible and their sum is constant.”

— Emile Chatelet (c.1704), *Publication* (pg. #)

In direct translation, Chatelet, originally written in French, is saying basically: ‘it has been evidenced, or determined by experiment, that *living force* and *dead force* are interconvertible and their sum is constant.’ This logic of conservation of living and dead forces, in this period, was being applied to balls dropping and springs becoming uncompressed.

A century and a half later, however, going into the 1840s, when people to think about these universal conservation laws of nature, in respect to motion and collisions of bodies, applied to humans, such as cartooned at right, we are led into mental nonsense:



To get an idea of how objection can arise, consider the following synopsis:

“**Vis mortua** and **vis viva**, in mechanics, are terms used by Leibnitz and his followers for ‘force’, which they distinguish into two kinds, *vis mortua*, and *vis viva*; understanding by the former any kind of ‘pressure’, or an endeavor to move, not sufficient to produce actual motion, unless its action on a body be continued for some time; and by the latter, that force or power of acting which resides in a body in motion.”

— Charles Hutton (1815), *A Philosophical and Mathematical Dictionary, Volume Two* (pg. 56)

Life, according to Hutton, in his secular translation of *vis viva* or life force, is defined as the ‘force or power of *acting* which resides in a body in motion’. A discerning intellect, in the decades after this period, might very well ask themselves: ‘so I am an *actor*, made by a force or power, which resides in my body, while I am in motion? Those intellects who agreed with the conclusion, would be on the right track. Those who disagreed, more often than not tended to be on the religious train tracks.

One of the first, to object to this use of *living force* and *dead force* coded language in physics, to exemplify, was James Joule, who said the following:

“The force expended in setting a body in motion is carried by the body itself, and exists with it and in it, throughout the whole course of its motion. This force possessed by moving bodies is termed by mechanical philosophers *vis viva*, or living force. The term may be **deemed by some inappropriate**, inasmuch as there is ‘**no life**’, **properly speaking**, in question; but it is useful, in order to distinguish the moving force from that which is stationary in its character, as the force of gravity.”

— James Joule (1847), “On Matter, Living Force, and Heat” (pg. #)

Joule was on the Bible track. Most of his research efforts, in fact, were aimed at calculating the mechanical equivalent of heat, to an exact precision, so that he could quantify the descriptions of the churning of water and heat into work, as described in the creation of the universe, according to Genesis. Joule's exacting calculations, is were the unit of energy, the joule, derives.

Eventually, to fix this growing and rising terminology confusion issue, in respect to the problem of referring balls being dropped or springs being uncompressed as having 'life', was solved by simple terminology reform:

Defunct Term		Reformed Term	Person	Year
Vis viva	→	Kinetic energy	William Thomson	1862
Vis mortua	→	Potential energy	William Rankine	1853

The term 'kinetic' is derived from the Greek *kinein*, meaning 'to move'. The term 'potential' is derived from the Latin *potens* meaning 'powerful'. Problem solved. The gist history of the transformation of the religio-mythology based *vis viva* and *vis mortua*, into scientifically neutral terms, is summarized as follows:

Terms	Experiments	Original	Symbols	Intermediate	Reformation	Symbols
Momento Quasi force (Galileo, 1592)	(Descartes, 1640) (Huygens, 1669)	Vis Viva Living force (Leibniz, 1686)	T or (Lagrange, 1788)	Actual energy (Rankine, 1853)	Kinetic energy (Thomson, 1862)	T (Clausius, 1875)
Peso Morto Dead weight (Galileo, 1638)		Vis Mortua Dead force (Leibniz, 1673)	V (Lagrange, 1788)	Latent energy	Potential energy (Rankine, 1853)	J or ergal (Clausius, 1875)

In sum, in the 17th century, Latin language, the scientific standard, was employed by Galileo, e.g. "peso morto" (dead weight), and Leibniz, e.g. *vis viva* (living force) and *vis mortua* (dead force), to describe motions and energies associated with metal balls being dropped, collided together, or being in a position of height. Following Leibniz, who was a "theist", and quite amenable to employing anthropomorphic-stylized "living" and "dead" terminology to the movements metal balls, his *vis mortua* and *vis viva* terminology took hold in the minds of physicists for the next two centuries.

Of note, most of our modern scientific terms are Greek based, which in turn are Egyptian cypher coded. The terms 'physics' and 'philosophy', e.g., both derive from the Greek letter phi, which is a isopsephy cypher for the Egyptian god Ptah, the god of blacksmithing and fire-making. The shape of the god Ptah was that of a 'fire drill', the ancient devise used to start fires, by spinning a stick into a piece of bark, to generate heat via friction, and hence flame. The reason that there is no controversy about the words physics and philosophy is that there is no magic involved. We fully understand all the properties of the fire drill.

This, however, is not the case with these Venus and Mor based term. Specifically, because the conflict with extant operational religious views and common sense.

Thus, when a stone is dropped or a compressed spring is released, it is no longer appropriate or permissible to say that the stone while falling or the spring while expanding is 'alive', or has 'life', as Joule points out, or to say that it possessed by a 'living force'. In other words, a spring is not dead nor alive. It just has various movement properties depending on its state of compression. The same is the case with humans, only more complex to explain.

Hence, when it comes to matters of importance, such as the quantifiable areas of study, e.g. chemistry, physics, and thermodynamics, and these, in turn, applied to the study of human movements, it is VERY important to 'speak properly', so that our language does not become deemed 'inappropriate', by some.

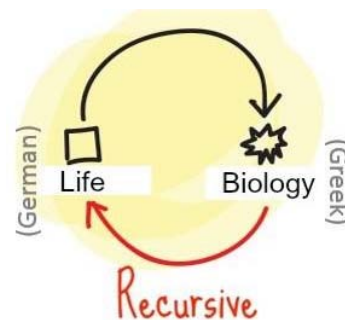
12.2 | Triple language word trick

Of note, in the development of the conservation of motion laws in this period, the descriptions of the motions of bodies was being penned in three different languages, namely: Italian, Latin, and physics (Galileo), English, Latin, and physics (Newton), German, Latin, and physics (Leibniz), or French, Latin, and physics (Chatelet, 1704). The mind, while attempting to process what is being spoken about in the language or equations of physics, accordingly, loses sight of what is being said, underlyingly, say the Latin + French or Greek + German word salad mixture.¹

This type of double language word salad trick, of note has been employed, over the last century, to define the Greek word 'biology' by mixing it with German word 'life'. Note for example what German physico-chemist Uwe Meierhenrich says about Wikipedia using a Greek-German word loop to define life:

“What about other definitions of life? Wikipedia, for example, posts that life is a characteristic that distinguishes objects that have self-sustaining biological processes from those which do not. The difficulty with this definition is that it refers to biological processes. Biology [Greek] — as explained by Wikipedia — is defined as the ‘study of life’ [German]. Here we **turn in a circle**. This is elegant but not helpful.”

— Uwe Meierhenrich (2012), “On Edward Trifonov’s 123 Definitions of Life”



This principle is visually outlined below, namely that compressed energy or energy of position can be converted into springing or releasing energy or into moving energy.

12.3 | Life → Faculty of Reaction (Lubicz, 1949)

The so-called Thomson-Rankine *vis viva-mortua* terminology reform, summarized above, actuated in in reality, in the sciences of physics and thermodynamics, a language transformation that took place slowly over the course of about two decades, in respect to the term *vis viva* becoming upgraded to the term ‘kinetic energy’, or energy of motion, and *vis mortua* being upgraded to ‘potential energy’ or energy position in respect to power, we now have a base model on which to see how the same terminology reform will actuate in the coming decades in the proto-sciences of the humanities. In other words, in order for a subject in the humanities to become ‘scientific’, the first step is to speak things *scientifically*.

In this direction, to get our feet wet, in 1949, Rene Lubicz, in his *The Temple of Man*, in his attempt to find a scientifically suitable new terminology to define the confused term ‘life’, suitable or employable in the mineral to man range, defined life as the ‘faculty of reaction’, as follows:

“I propose the **following definition**, which is applied to everything, including minerals: **‘life is the faculty of reaction.’** Every thing in the universe tends toward inertia, or absence of reaction. The proof of this inertia, which thermodynamics seeks in ‘absolute zero,’ has never been given, nor will it ever be, because absolute inertia can only be attained through the cessation of the formed matter or ‘thing’. This would be the moment the thing ceased to exist. **Every thing ‘existing’ is capable of reaction**, insofar as it has ‘weight’, that is, fixed or specific energy. The vital phenomenon is the faculty of reacting, and to manifest itself this reaction requires a resistance of the same nature as the action.”

— Rene Lubicz (1949), *The Temple of Man*

This new view, outlined here by Lubicz, technically what is called ‘matter, motion, and reaction’ philosophy, un upgrade to the ‘matter and motion’ philosophies of: Isaac Beeckman (1616), Rene Descartes (1630), Jean Meslier (1729), and Baron Holbach (1770).²

In the last decade, starting with terminology reform protocol in respect to submitted articles to the *Journal of Human Thermodynamics*, which began in 2012, to Hmolpedia article terminology reform, which began in about 2013, the so-called ‘term upgrade’ problem solving technique has been a working project, about 80% of which has solidified into the introduction of either new terms or a switch to alternative terms previously employed, historically.

In 2012, Thims, on the Goethe timeline employed the terms: ‘reaction start’, ‘reaction existence’, and ‘reaction end’, for the defunct terms: birth, life, and death. In 2013, Thims, amid drafting the ‘smartest person alive’ article, and videos made therefrom, renamed the article to ‘smartest person alive | existive’, so to use non-anthropomorphic, physico-chemically neutral (PCN) language.

On 30 Jun 2015, Thims started the ‘existive’ article, explaining how the term existive is a portmanteau of ‘*react-ive exist-ence*’. In this term, to clarify, both a mineral and a human can be defined as a reactive existent. The difference between the two, however, is the that a human has a hydrocarbon-based faculty, whereas the mineral does not. In other words, most of the mass of the human brain is made of white matter or oleic acid (OA), which is the though trans mission part of the mind, and gray matter or docosahexaenoic acid (DHA), which is the memory part of the mind. Both OA and DHA are hydrocarbon chain structures. Thus, a human has a hydrocarbon-based faculty of reaction, whereas a mineral does not. More clarification, of note, is needed beyond this, e.g. in respect differentiating different hydrocarbon-based reaction faculties from others, e.g. methane CH₄ has a so-called ‘faculty of reaction’, as Lubicz puts it, with respect to oxygen O₂, but no one refers to CH₄ and O₂ as being alive. Some of these distinctions are work of the future, some of which has been worked out in the online ‘animate thing’ article.⁵



The Lubicz and Thims examples, which are both independent, as Thims did not become aware of the work of Lubicz until circa 2016, shows but two examples of forward movement in respect to the grand subject of life terminology reform.³ This so-called Thims-Lubicz reform, in short, involves more than just a simple switch of two terms, as was the case in the Thomson-Rankine reform. Before the close of this book, we will summarize, in tabular form, the reforms extant, to date.

Synopsis: Just as William Rankine and William Thomson expunged living force and dead force from physics, so too are we, herein, expanding on this intelligent step, by working to expunge life and all bio-related terms from modern science proper.

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13. Bio = 282

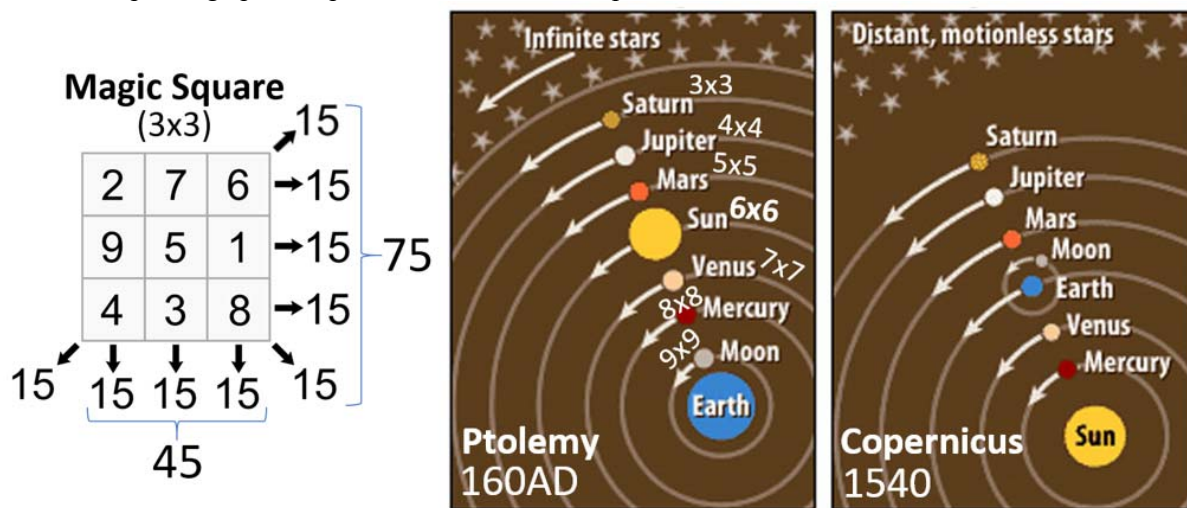
“The names Jesus (888) and Christ (1480), by gematria, both are related to the two Greek words for life: ‘zoe’ [815] and ‘bios’ [282]. In diagram form, they bring out the cosmological number 1332 (666 x 2) which is, like 888 and 1480, obtained from the ‘magic square’ of the sun. The whole arrangement is one of logos, ratio, and harmony, symbolizing Jesus the Christ as the cosmic word of ‘life’ and light.”

— David Fideler (1993), *Jesus Christ: Sun of God* (pg. 2690)

Chapter point: The root of the word biology derives from the solar magic square. [length: 9-pgs]

In ancient Egypt, classical Greece, and in early Roman times, the seers and sages used to make so-called mathematical ‘magic squares’, which are grid-filled squares wherein the sums of all rows, diagonals, and columns yield the same number, such as shown for the basic 3x3 magic square below left. The larger the magic square the more complex they become to make.

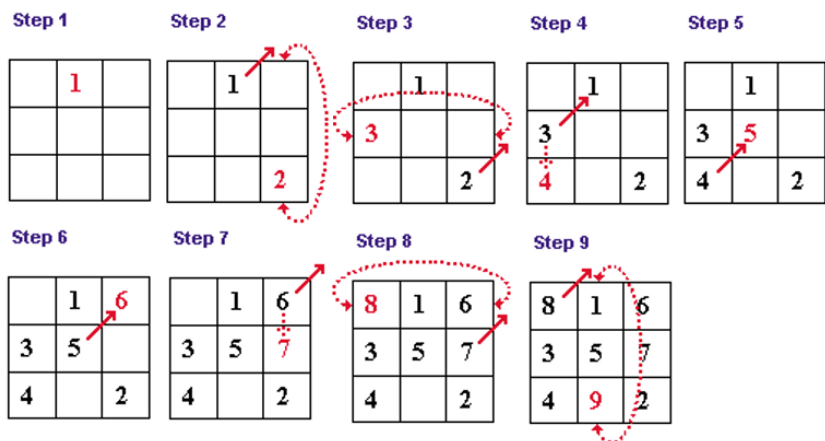
In about 1000BC, people thought each planet was associated with a specific sized magic square, the size of which depending upon the presumed closeness each planet was from the earth, as shown below middle:¹



The planet Saturn, the farthest away from the earth, had a 3x3 magic square associated with it, Jupiter had a 4x4 magic square associated with it. The sum of all the columns (or all the rows) in a magic square is the number of the planet. Thus, the magic number of Saturn is 45, the sum of sum of three rows (or 3x15). The sun had a 6x6 magic square, and the moon had the largest, a 9x9 magic square.

Each size of magic square has a different trick or mathematical technique to making them. The adjacent diagram, show the so-called start top middle and keep ‘moving diagonally up right’ method for a 3x3 magic square. If you encounter either no box or another number in a column, then you move down to the bottom. If you encounter either no box or another number in a row, then you move all the way to the left.

Hence, as shown adjacent, the first step is to put a number one in the top middle box (step 1). Then move up right. Here, encounter empty slot, in a column, so move all the way to the bottom, and write in a 2. Next, go top right. Here, encounter empty slot, in a row, so move all the way left farthest box back, and write in a 3 (step 3). Continue this method until all boxes are filled. Then you have a 3x3 magical square, it being magical per reason that all the rows sum to the same value: 15 and all the rows sum to the same value: 15; and both diagonals sum to the same value: 15.



13.1 | Solar magic square

There are seven steps involved in making a 6x6 classical 'solar magic square', but the so-called 'up right' method is not used. Here a so-called double snake fill in the boxes method is used, the first three steps of which are shown below:

6					1
	11			8	
		16	15		
		22	21		
7	29	9	10	26	12
36	5	4	3	2	31

6	32	33	34	35	1
30	11	28	27	8	25
19	20	16	15	23	24
18	17	22	21	14	13
7	29	9	10	26	12
36	5	4	3	2	31

6	32	33	34	35	1
30	11	27	28	8	25
19	20	16	15	23	24
18	17	22	21	14	13
7	29	9	10	26	12
36	5	4	3	2	31

First, one highlights the diagonal squares, in their mind or with a highlighter. Then one counts one to 36 starting in the top right hand corner, going right to left in each row, writing the given number count in, only if it land in a colored box. Second, one starts at the bottom right hand corner, with the number one, counting right to left in the first row, but then left to right in the next higher row, then right to left in the third higher row, alternating this way until the top right hand corner is reached, during the course of which the corresponding numbers are written, this time, only in non-diagonal boxes, as shown above left.

Next, with the box completely filled in with numbers, there are five so-called number group rotating sequences that one needs to do. These are kind of like number group rotations are kind of like twisting the last five turns of a Rubik's cube, so to make all the sides the same color. The first two rotations are to swap the 28 and 27 into each other's boxes, then to swap the 9 and 10 into each other's boxes.

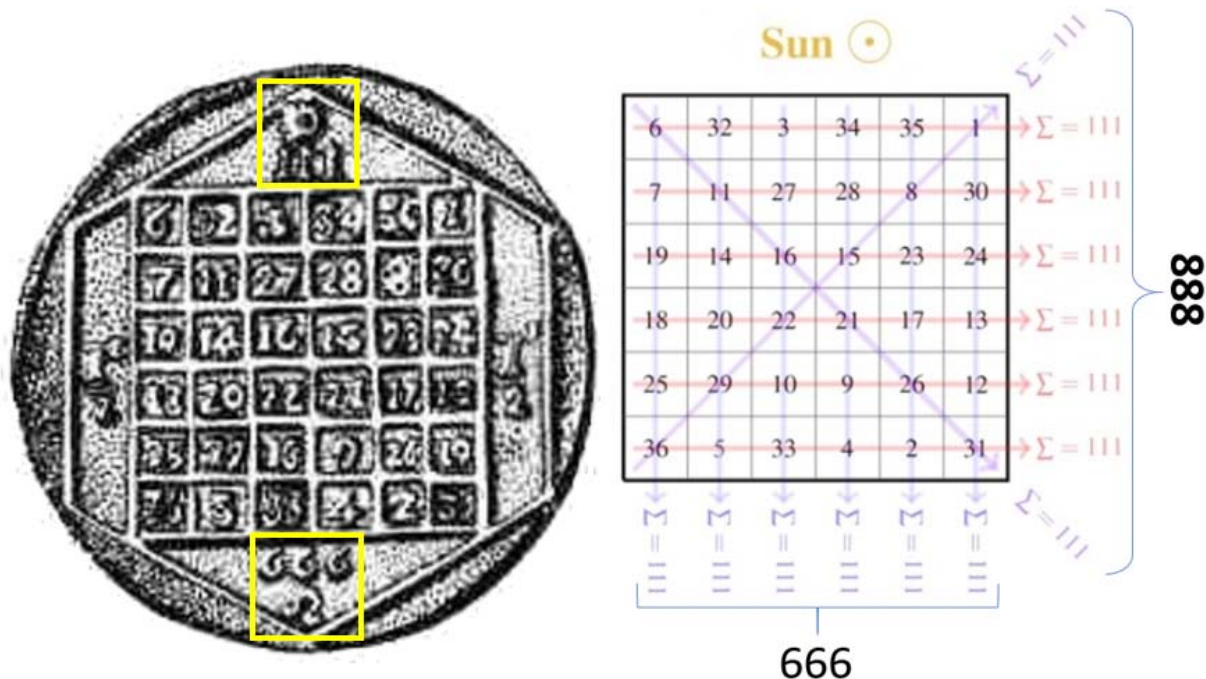
The next step is to rotate the three number combinations: 14, 20, 17, counterclockwise, then the group: 3, 33, 4, counterclockwise; then the group: 7, 25, 30, *clockwise*, as shown below:

6	32	33	34	35	1
30	11	27	28	8	25
19	20	16	15	23	24
18	17	22	21	14	13
7	29	10	9	26	12
36	5	4	3	2	31

6	32	33	34	35	1
30	11	27	28	8	25
19	14	16	15	23	24
18	20	22	21	17	13
7	29	10	9	26	12
36	5	4	3	2	31

6	32	3	34	35	1
30	11	27	28	8	25
19	14	16	15	23	24
18	20	22	21	17	13
7	29	10	9	26	12
36	5	33	4	2	31

At this point, the square becomes 'magic', and all the rows, columns, and diagonals are found sum to the magic number of '111', as shown below at the top of the magic square amulet or magic square medallion, held and the Berlin Museum:



Above the number '111' is a small sun icon.

13.2 | Paideia = 111

The number '111', in isopsephy value, translates into the name: paideia (παιδεία) (NE:111), the exact secret name of which being unknown at the moment? We do know that it seems to be a term related to the Greek name for child: paidi (παιδί), as employed in modern terms such as encyclopedia or encyclo-pedia. The term '111', however, has a deeper meaning than this, in some way related to the sun conceptualized as a god.

In 370BC, Plato was referring to the 'true paideia' of humans, in respect to education. In 190AD, Clement of Alexandria was referring to the 'paideia of god' and the 'paideia of the christ'. The term in this sense seems to be related to the mysteries of the Egyptian sun god religion.

In short, if the number '1', according to the Pythagoreans, represented the monad, which they also called the 'nous' or mind of god, then the '111' would be akin to education on the mysteries, the mind of god, or truth about the sun god.

This seems to be similar to the modern phrase: 'you got the 411?', a slang term from the 1990s, meaning: do you have the truth, facts, or information. The term phrase: 'what's the 411?', e.g. is famously known as the title of 1992 debut album by R&B singer Mary J. Blige.



13.3 | Sol = 666

The sum of six rows or columns equals '666'. This number is seen at the bottom of the Berlin solar magic square medallion, above situated above an omega symbol (Ω).

The number 666, to the early period Romans, was considered thus the number of the sun god Sol, the Roman rescript of the Greek god Helios. Sol is shown below, pulling the sun on his flying chariot. Next to this picture is the opposite side of the solar magic square medallion showing a picture of the sun moving through the Leo constellation.

When the values of the two diagonals of the solar square are added to '666', the sum is the number '888'. The combination of numbers 666 and 888, were considered sacred in Pythagorean musical harmony.



theory. The Hebrews considered the number '8' to be symbolic of a new beginning and three 8s to be a new beginning on three levels.

13.4 | Ogdoad = 8 primordial water-void gods

The Egyptians, from whom Pythagoras learned his mathematics, considered the number 8 to be sacred and powerful number in the sense that it was the number of gods of the Hermopolis Ogdoad, which were the supreme 'paut' or god family of the Egyptian city of Hermopolis, aka 'city of Hermes', as the Greeks called it, or 'city of Thoth', in the original Egyptian meaning. Thoth was considered the god of numbers, mathematics, and science, to the Egyptians:

"The hymns to Ra which are found in the *Book of the Dead* and in other funeral works of the ancient Egyptians state that the deities Thoth and Maat stand one on each side of the great god in his boat, and it is clear that they were believed to take some important part in directing its course; and as they were with Ra when he sprang up from the abyss of Nu their existence must have been coeval with his own. Thoth was a self-begotten god who **made calculations** concerning the stabilizing of the heavens, and the stars, and the earth; was the heart of Ra, master of law, both in the physical and moral conceptions of the knowledge of 'divine speech'. He was the **inventor and god of all arts and sciences**, the 'lord of books', the 'scribe of the gods', and 'mighty in speech', i.e. his words took effect, and he was declared to be the author of many of the funeral works by which the deceased gained everlasting life."

— Wallis Budge (1904), *The Gods of Egypt, Volume One* (§13)

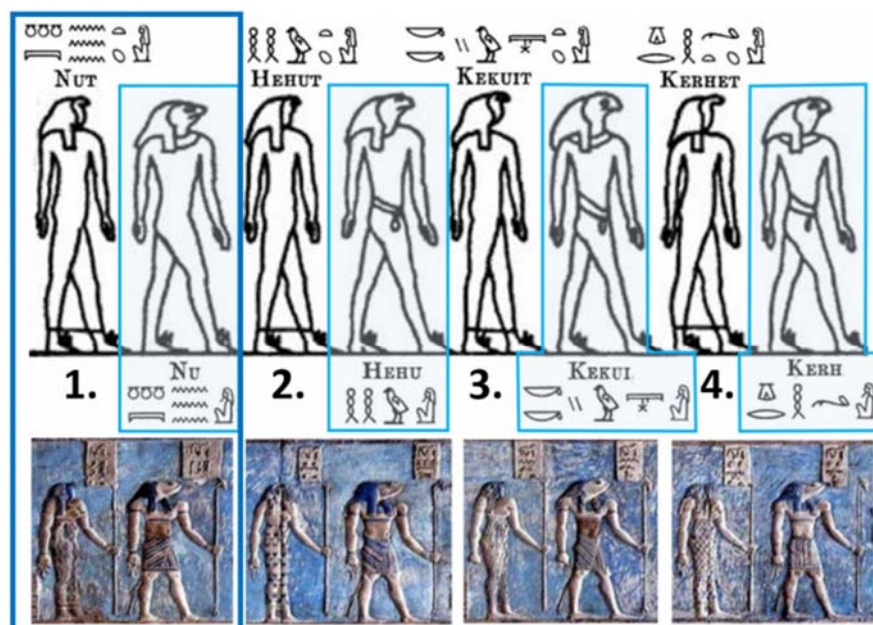
In other words, according to Budge, Thoth is the god of mathematics, and hence as the art of mathematics originated in Egypt, so Aristotle tells us, it would seem to be likely that Hermopolis was an early epicenter of mathematics knowledge. The scared number pattern: 1, 2, 4, and 8, accordingly, seem to have arisen in Hermopolis, themed on the Ogdoad, aka the 'big bang god group' as we would refer to them, in a modern sense, as Nile river flood cosmology to the Egyptians is what the big bang is to us presently.

The following is a visual of what the Ogdoad looked like, namely a family four-generation family of frog-headed and snake-headed watery gods and goddesses.

These eight gods, came in four male-female pairs, frog-headed males and snake-headed females, all generally themed as watery gods, hence their blue color. The first pair to appear were Nu (male) and Nut (female), the god Nu or Nun being essentially the god embodiment of the Nile river, particularly when it flooded. Nut was his female counterpart in Hermopolis. Together they were considered the watery abyss or chaos at the beginning of the universe. The children were: Huh and Hauhet, symbolic of space or infinity (or void). Their children were: Kuk and Kauket, symbolic of darkness. Their children were Amen and Amaunet, symbolic of hiddenness. The thus originated in the following order:

1. **Nun** [Nu] (male) + **Naunet** [Nut] (female) = Primeval watery abyss (or chaos)
2. **Huh** [Heru] (male) + **Hauhet** [Hehut] (female) = Space or infinity (or void)
3. **Kuk** [Kekui] (male) + **Kauket** (female) | Darkness
4. **Amen** [Kerh] (male) + **Amenet** [Kerhet] or **Amaunet** (female) = Hiddenness

The supreme god here was Nun, later defined by Pythagoras as the monad or nous, aka mind of god, and conceptualized as the first number of creation or primary or primordial self-engendered thing or substance of the cosmos.



8 = Ogdoad

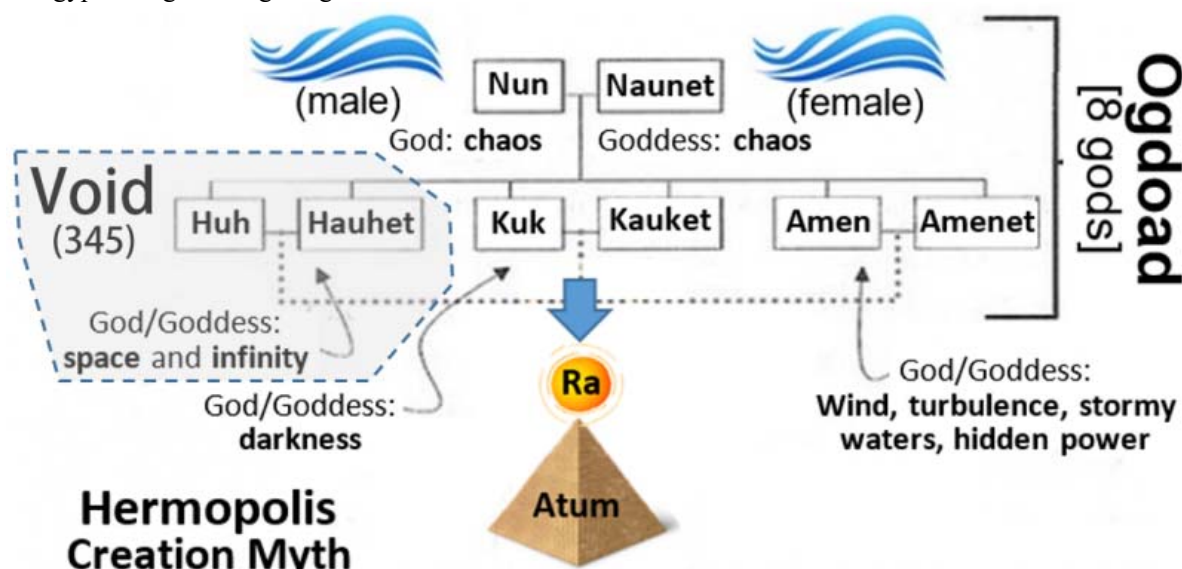
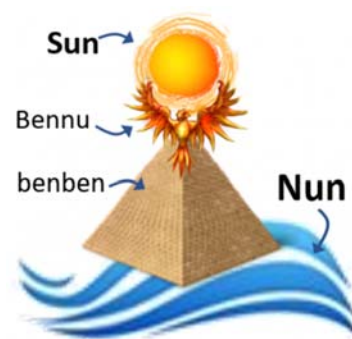
“Anatolius (*De Decade*, c.285) remarks that the Pythagoreans call the **monad** ‘*nous*’ and liken it to the one itself (*to heni auten*), the intelligible god (*to noeto theo*), the uncreated (*to agenneto*), beauty itself (*autokalo*), the good itself (*autoagatho*), and—among the virtues—the wisdom (*phronesei*) of the one.”
— Bruce MacLennan. (2019). “The Psychodynamics of Numbers”

The birth of the world, according to the Hermopolis creation myth scheme, was to have taken the form of the Nun (1) turned Ogdoad (8) out of which land arose, from the tip of which the sun or sun god, was born bursting into the sky. Hence, we have the following number ideology:

Nun (1) → Ogdoad (8)

$3 \times \text{Nun (1)} = 111 \rightarrow 3 \times \text{Ogdoad (8)} = 888$

Words derived from Nun (or Nu), include: new, negative, nil, non, nope, no, naught, negligible, and names such as: Noah (Christianity), or Nuh (Islam), or MaNu (Hinduism). Nun, in a sense, is the root of the word ‘nothing’, albeit not exactly. It means kind of like the water, as the primary element, that came out of the vacuum of space, given what we know of Egyptian hieroglyphics to English translation. The gist of the Egyptian Ogdoad big bang model of creation is shown below:



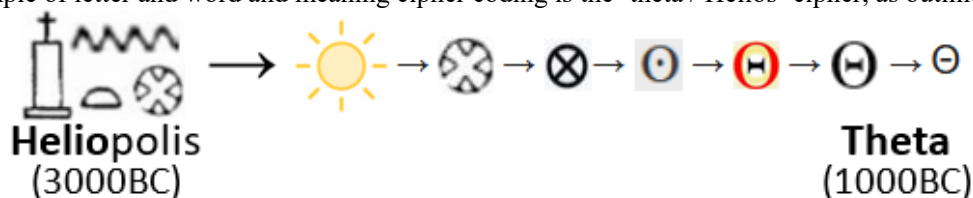
Nun and Naunet appeared, as chaos or void, depending on translation. They engendered six children (or children and grandchildren): space, infinity, darkness, wind, turbulence, stormy waters, and hidden powers, all of which were coded into the number: 8.

13.5 | Greek 888-themed alphabet

The Greeks eventually became so fascinated with the number ‘8’ and ‘888’ that they truncated their original 27-letter alphabet down to 24-letters, by removing three letters, namely: digamma, koppa, and sampi, so to make an 888-themed alphabet, with 8 single value letters, 8 ten-value numbers, and 8 hundred-value numbers, as shown below:

1	A α	A α	1	10	I ι	I ι	10	19	P ρ	P ρ	100
2	B β	B β	2	11	Κ κ	Κ κ	20	20	Σ σ ς	Σ σ ς	200
3	Γ γ	Γ γ	3	12	Λ λ	Λ λ	30	21	Τ τ	Τ τ	300
4	Δ δ	Δ δ	4	13	Μ μ	Μ μ	40	22	Υ υ	Υ υ	400
5	E ε	E ε	5	14	N ν	N ν	50	23	Φ φ	Φ φ	500
6	(F f / C c)		6	15	Ξ ξ	Ξ ξ	60	24	Χ χ	Χ χ	600
7	Z ζ	Z ζ	7	16	Ο ο	Ο ο	70	25	Ψ ψ	Ψ ψ	700
8	H η	H η	8	17	Π π	Π π	80	26	Ω ω	Ω ω	800
9	Θ θ	Θ θ	9	18	(Q q)		90	27	(R r)		900
(8)			+	(80)			+	(800)			= 888

Most of the Greek alphabet, at this point in time, was entire cypher-based, with the ordering of the letters, their numerical value, and the isopsephy values of the names of the letters, corresponding to Egyptian creation myths, Hermopolis creation myth and Heliopolis creation myth primarily. The most famous example of letter and word and meaning cipher coding is the ‘theta / Helios’ cipher, as outlined below::



In short, during the formation of the Greek alphabet and Greek names, the Greek sun god Helios, itself a rescript of the Egyptian sun god Ra, and the Greek letter Theta were both isopsephy-constructed based on the number ‘318’, wherein Helios became the secret name of the 9th letter ‘Theta’, which yield us today with heat-themed words such a thermometer and thermodynamics, or sun god based word such as theology, theologian, as well as *theos* or ‘god’ in English. All of this was coded into the Greek alphabet by the time Hesiod wrote his *Theogony* (700BC).

13.6 | βίος = diameter of magic solar circle

In 520BC, Pythagoras was employing the scared number ‘888’ in music theory, e.g. this number is derivable from the ratio of 9:8, which expresses a whole tone, and presumably in his divine geometric cosmology. Sometime herein, Greeks began to employ the term: βίος, or ‘bio’ in English, in the meaning or sense of life, or in some cases afterlife. Details of this early usage and meaning, however, are scarce.

In c.495BC, Heraclitus, in fragment 48, supposedly, was using the term ‘βίος’ in the sense of life. Also, in c.470BC, Pindar, in one of his works, was said to be using the term ‘βίος’ in the sense of ‘life after death’. Moreover, Euripides, in one of his 430BC works, supposedly, employed the term ‘bio’ or prefix *bio-*, meaning as ‘life’ in Greek. Georg Misch, in *A History of Autobiography in Antiquity* (1950), in fact, claims this is where ‘bio’ originated.³

Now, the isopsephy value of βίος (or bio) is the number: ‘282’. In other words, the sum of the values of the letters of the word bios equals the number 282:

$$\mathbf{B\ (2) + I\ (10) + O\ (70) + S\ (200) = 282}$$

Hence, at this point in history, the word BIO was defined as ‘life’ in some way or another and it’s secret number was ‘282’, which would have been a key that connected it to its secret name or divine geometrical meaning? Certainly, Heraclitus and Pythagoras would have known the full cypher accurately.

13.7 | Jesus = 888

Now, although we do not presently know the secret name of ‘282’, other than its primary name being associated with some blurry Greek association of the term with ‘life’ and musical harmony, what we do know is the geometrical nature of the number. Specifically, the number 282 is the diameter D of a circle that has a circumference C of ‘888’ units. In other words, according to the formula of the circumference and diameter of circle:

$$\pi = \frac{C}{D}$$

The value of 888 divided by the value of 282 equals the value of pi (π) or 3.1415, rounded off. We also know that the number ‘3.14’ or 314, with no decimal point is the isopsephy value of the word Bible or βιβλος as it was originally called in Greek:

$$\mathbf{B\ (2) + ι\ (10) + β\ (2) + λ\ (30) + ο\ (70) + ς\ (200) = 314}$$

Next, we know that the first so-called extra-Biblical historical mention, i.e. reference outside of the Bible, of the name ‘Jesus’, or Ιησους in Greek, is found in the 94AD book *The Antiquities of the Jews* by Josephus, a Jewish historian:⁴

“Now there was about this time **Jesus** [Ιησους], a wise man, if it be lawful to call him a man; for he was a doer of wonderful works, a teacher of such men as receive the truth with pleasure. He drew over to him both many of the Jews and many of the Gentiles.”

— Josephus (94AD), *The Antiquities of the Jews* (§3.3)

Now, to note, there is a line of argument, such as advanced by Tom Harper (*The Pagan Christ*, 2004), which says that this Josephus paragraph is forgery, doctored in by later Christian authors in the years 400 to 1000AD, as there are no original extant copies of *Antiquities of the Jews*, prior to the 11th century, and that the name Jesus did not appear in actual print until a century or so later. Whatever the case, we do know that the isopsephy value of the name Jesus in Greek is 888:

$$\text{I} (10) + \eta (8) + \sigma (200) + \omicron (70) + \upsilon (400) + \varsigma (200) = \mathbf{888}$$

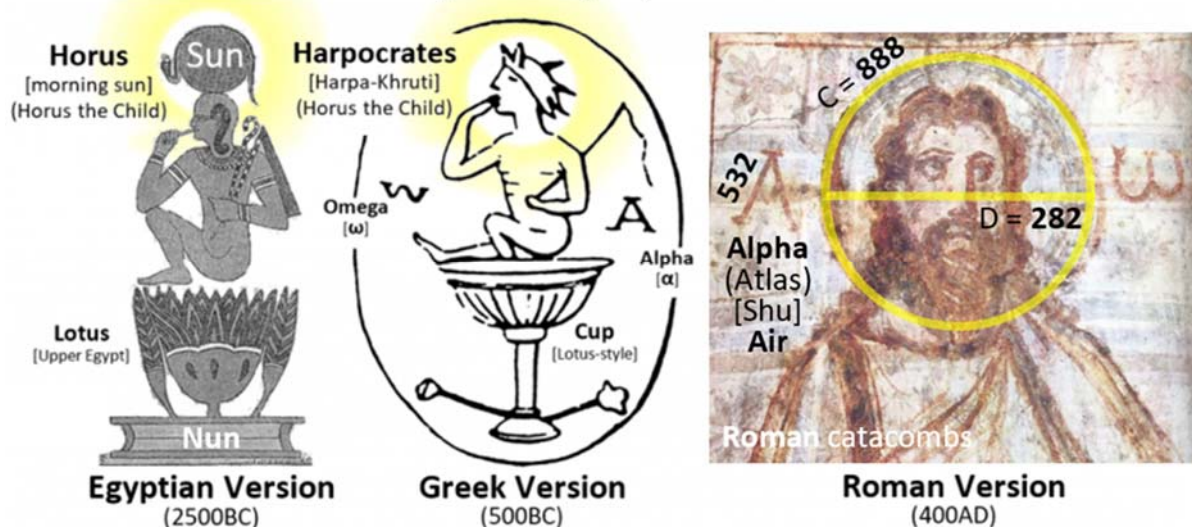
Here we see that the solar magic square number '888' employed as the secret name of Jesus, the new messiah of the first or second century AD. Another line of thought, of note, will argue that name Jesus is derived from in Hebrew was 'Yeshua' (or Yehoshua), which translates to English as Joshua, and that the early Christian founders did a forced translation to fit the name Joshua into the 888-based Greek name Ιησους or Jesus; one take on this is as follows:

"The Greek name Iesous, or $10 + 8 + 200 + 70 + 400 + 200$, is an artificial and forced transliteration of the Hebrew name *Joshua*, which has been deliberately constructed by the gospel writers to make sure that it expresses the symbolically significant number: 888."

— Timothy Freke (1999), *The Jesus Mysteries* (pg. 116)

In this context, we know that the Hebrew name Joshua is a god character rescript of the Egyptian god Shu, or god of the air, which was the first thing created by the god Atum, at the start of the universe, according to Heliopolis creation myth. Moreover, in Greek mythology, Shu was rescripted into the god Atlas, which has the isopsephy value or numerical equivalence (NE) of '532'. Secondly, we know that the secret name of Ατλας (NE:532) is the letter alpha or αλφα (NE:532), the first letter of the Greek alphabet (alpha-beta), just as Shu or air was the first thing created by the god Atum, in Egyptian mythology.

This 'Joshua = Jesus cipher', is found in the Biblical phrase: 'I am the alpha and the omega' or 'I am the beginning in the end', meaning 'I am Joshua (god: Shu) and the 888 (sum end value of Greek alphabet)', omega being the end letter of the Greek alphabet, whose total number value is 888. This symbology is found carved on the walls of 400AD Roman catacombs, as shown below right, showing Jesus with the magic solar circle behind his head, and the letters alpha and omega adjacent:



This symbology, in origin derives from the Egyptian god Horus, the great-great grandson of the god Shu, shown above left in the form of the morning sun being born out of a lotus rising out of the Nile, or Harpocrates, as the Greeks called him, above middle, shown on a 500BC Greek gem.

Here, we are only giving a glimpse of some larger Egyptian cipher-based geometry-themed religio-cosmology, that we only partly understand. The important point for us to retain, at this point, in respect to chemical thermodynamics applied to humans, and linguist quagmire encountered therefrom, is that the '888/282 solar circle' motif, which stretches back to the ancient Egyptians, and the Horus cipher, which became the 'Jesus [888] is the life [282]' motif in early Roman 400BC times, which became the 'biology is the study of the life force' (Roose, 1797) in the 18th century German period, which became the 20th century neo-vitalism debates (Crick, 1966) in recent modern times, is all but a long-winded solar circle based argument, derived from the equation for the diameter of a circle. The long and the short of this solar circle magic word argument is summarized below:

Jesus[Iesous]
(Ιησους)

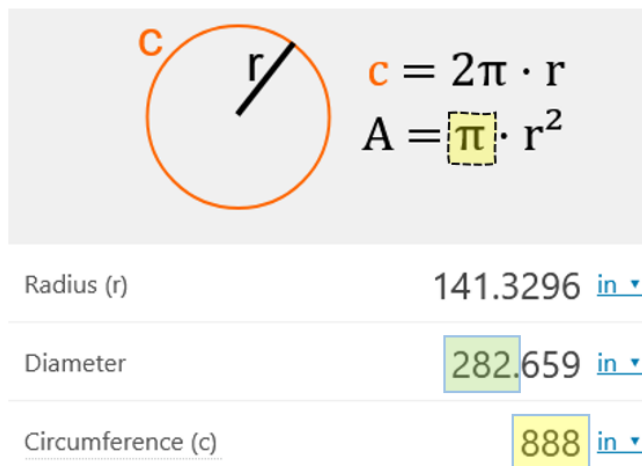
I = 10
η = 8
σ = 200
ο = 70
υ = 400
ς = 200

[888]**Bio**[bios]
(βιος)

β = 2
ι = 10
ο = 70
ς = 200

[282]**Bible**[biblos]
(βιβλος)

β = 2
ι = 10
β = 2
λ = 30
ο = 70
ς = 200

[314]

The takeaway point, in short, is that the Greeks, in the period around 400BC, were employing the bios = 282 secret name cipher in reference to some concept about 'life' in respect to the sun or sun god, which they knew was connected to the '888' value of the solar magic square, based on some type of divine solar geometry they had learned while studying in Egypt. Bio is a divine solar magic word.

Related to the '888' Jesus cipher, to round things off, we also know that in 110AD Tacitus gives us the first verified historical mention of the term 'Christus' as being the name of the founder of a newly rising religion in Rome.⁴ The term Christ, we know derives from the Greek amicable number pair (284, 220) as being symbolic of the name pair (theos, messiah), wherein:

Theos = 284

Messiah (or Christ) = 220

Hence, by the time of the early second century AD, the newly invented name 'Jesus' had become the new secret name of '888', thereby making the number '282' the secret name of 'life', wherein new name 'Jesus Christ' had become the secret name of '888 the 220', meaning chosen solar messiah or messenger of the '111' (divine truth), and that '314' became the numerological basis the name 'Bible', or the book of 'life'.

To explain formulaically, rearranging the previous equation, we see that the diameter of a circle equals its circumference divided by pi:

$$D = \frac{C}{\pi}$$

With substitution, knowing that the diameter of the divine solar circle is the word 'bio', we have:

$$\text{bio} = \frac{C}{\pi}$$

and knowing, from our study of the solar magic square, that the number units of the circumference of the divine solar circle is 888, we have:

$$\text{bio} = \frac{888}{\pi}$$

Thus, we have:

$$\text{bio} = \frac{\text{Jesus}}{\pi}$$

Alternatively:

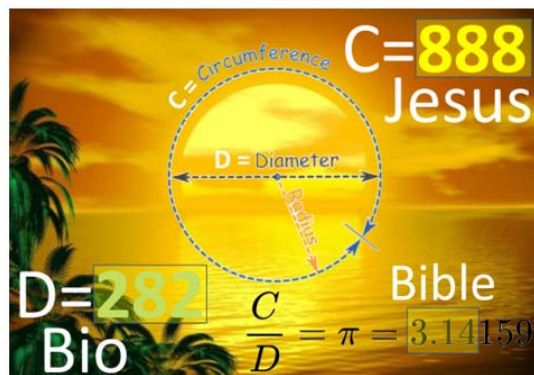
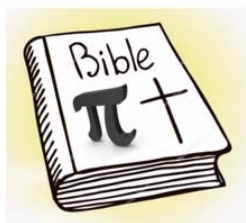
$$\text{bio} = \frac{\text{Jesus}}{\text{Bible}}$$

Thus, the word 'bio' equals Jesus

divided by the Bible. Said another way, biology is the study of Jesus divided by the 'book of life' (or book of pi).

In an alternative sense, known that π or pi is the root of the word 'father' (or padre), we can reformat the formula for the magic solar circle, as follows:

Bible
(βιβλος = 314)



$$\text{bio} = \frac{\text{Jesus}}{\text{Father}}$$

We find these three words: Jesus, bio, and Father, employed famously in the popular John 14:6 verse of the Bible, as shown, adjacent.

In other words, Jesus, as the sum of the rows and diagonals of the solar magic square, is the human solar god embodiment of the light of the sun, and that to get into the judgment hall of the father, so to be judged and possibly get more 'life', into the afterlife, one has to go through Jesus. The father and judgment hall in discussion here, is the god Osiris, the father of Horus. These were the prescript gods behind 'god the father' and Jesus, respectively.

The number '282', in sum, is a number derived from the solar magic square, hence the number itself is magical, thus has no basis at all in respect anything to do with heat or the sun. Moreover, in light of this new derivation, we see why Christians are so overly happy to argue with scientists and say that science can't explain life or the origin life. Namely, that bio, as currently employed in our modern language is a Christian term. Hence, asking a scientist to explain life, is like asking a chemist why he can't explain holy water.

The word bio, secret name: 282, in sum, is a magical number, once thought to be related to the sun, whose ancient meaning, as described in this chapter, is now lost to modern minds.

In 1797, Theodore Roose, German anatomist and physiologist, in *his Outlines of the Theory of Life Force*, defined the term 'biology' the doctrine of study of the 'life force', after which the term *bio-* began to be adopted throughout science, scientists at this point being completely ignorant of the mythological and or Christian basis of the word.

Synopsis: The word bio is based on isopsephy value of the number '282', which is the value of the diameter of a circle of circumference of '888', which is the isopsephy value of the name Jesus and the sum of the six rows and two diagonals of the solar magic square. Bio is a magical-mythical word.

References

1. https://hmoipedia.com/page/Magic_square
2. <https://hmoipedia.com/page/Biology>
3. Misch, Georg. (1950). *A History of Autobiography in Antiquity, Part 1* (pg. 62). Psychology Press.
4. https://hmoipedia.com/page/Silent_historians

“**Jesus** (Ἰησοῦς) [888] saith unto him, I am the way, the truth, and the **Life** (βίος) [282]; no man cometh unto the **Father** (π) [3.14], but by me.”

— Anon (200AD), *Bible* (John 3:14)

14. Defunct Theory of Life Debates: 2008 to 2019

“Quick question: what day exactly did the first life in the universe begin?”

— Libb Thims (2010), ‘Question to Georgi Gladyshev’, Thread: Origin of Life (post #1), Dec 4

Chapter point: In 2005, Thims made a molecular evolution table, depicting the formation of humans from hydrogen in 26 steps, each table row being the addition of one more element. In 2007, Thims published a ‘molecular evolution’ chapter, explaining, in short, how humans reactively evolved, morphed, or form-changed, over the last 13.7-billion years, from the hydrogen atom, and subatomic particles prior to that point. In this chapter, Thims stated that to assign a ‘point’ in past history, when atoms and molecules became ‘alive’, according to step-by-step mechanisms and formation energies, was ‘clearly absurd’. Thims began to argue and debate with everyone, in the decade or so to follow. [length: 8-pgs]

In 2002, Thims, amid drafting his then-entitled *Human Thermodynamics* manuscript, while penning the ‘What Happens When You Die?’ chapter, was led into the question of what exactly defines the totality of person at the second they cease to exist? This led to Thims researching and deriving the molecular formula for a person. This led, in 2005, in Thims doing research on the mass compositions of other animals and species that humans are said to have evolved from, and to list these formulas on a molecular evolution table. The visual and concept of this table, knowing now that humans are just different types of molecular formulas derived from the hydrogen atom, albeit becoming more complex with each step up the chain of being, led Thims to begin to question the nature of so-called ‘life start’ point occurring in one of these molecular formula rows. This resulted, in 2007, in Thims penning his ‘Molecular Evolution’ chapter to his *Human Chemistry*, wherein the question of life being definable according to molecules evolving or morphing became absurd. In the years to follow, debated began to erupt.

14.1 | Human molecular formulas

In 2000, Robert Sterner and James Elser, two American limnologists, derived a 22-element “empirical molecular formula” for a human, based on the classic six CHNOPS-elements: C, H, N, O, P, S, plus the following 16-elements: Ca, K, Cl, Na, Mg, Fe, F, Zn, Si, Cu, I, Sn, Mn, Se, Cr, and Co, as shown below:

$$\text{H}_{375,000,000}\text{O}_{132,000,000}\text{C}_{85,700,000}\text{N}_{6,430,000}\text{Ca}_{1,500,000}\text{P}_{1,020,000}\text{S}_{206,000}\text{Na}_{183,000}\text{K}_{177,000}$$
$$\text{Cl}_{127,000}\text{Mg}_{40,000}\text{Si}_{38,600}\text{Fe}_{2,680}\text{Zn}_{2,110}\text{Cu}_{76}\text{I}_{14}\text{Mn}_{13}\text{F}_{13}\text{Cr}_7\text{Se}_4\text{Mo}_3\text{Co}_1$$

They published this formula in their *Ecological Stoichiometry* (2002), wherein they defined a person as a ‘single abstract molecule’.

In 2002, Thims, independent of Sterner and Elser, while drafting a chapter entitled ‘What Happens When You Die?’, for his *Human Thermodynamics* manuscript, derived the following human molecular formula:

$$\text{H}_{2.5^9}\text{O}_{9.78}\text{C}_{4.9^8}\text{N}_{4.7^7}\text{P}_{9.0^6}\text{Ca}_{8.9^6}\text{K}_{2.0^6}\text{Na}_{1.9^6}\text{S}_{1.6^6}\text{Cl}_{1.3^6}\text{Mg}_{3.0^5}\text{Fe}_{5.5^4}$$
$$\text{F}_{5.4^4}\text{Zn}_{1.2^4}\text{Si}_{9.1^3}\text{Cu}_{1.2^3}\text{B}_{7.1^2}\text{Cr}_{98}\text{Mn}_{93}\text{Ni}_{87}\text{Se}_{65}\text{Sn}_{64}\text{I}_{60}\text{Mo}_{19}\text{Co}_{17}\text{V}$$

The same 22-elements employed by Sterner and Elser, plus four additional elements, namely: B, Ni, Sn, and V, were calculated, based on extant mass composition tables and known element function in people, thereby defining a human as a 26-element molecule or chemical species.

14.2 | Molecular evolution table

In 2005, Thims, after studying the mass composition and element functions of animals and species that humans are said to have evolved from, based on DNA and skeletal evidence, began to make an online ‘**molecular evolution table**’, a version of which we say in the ‘Preliminary’ chapter to this book. The table had 26-rows, one row for each elemental species type, e.g. a hydrogen, row one, is a one-element species, H₂O, row two is a representative two-element species, bacteria is a 15-element species, a fish is a 22-element species, and humans, row 26, are a 26-element species.¹ The formation energy of each species in each row was defined by its characteristic formation energy, from the base elements, aka Gibbs energy measure of

structure formation. The following is an early review of this logic by John Avery, a Lebanese-born Danish physicist and theoretical chemist:

“I want to say how much I enjoyed reading Thims splendid discussion of Gibbs free energy. It is wonderful to see **someone who is not afraid to look at the phenomena of life in a unified way.**”

— John Avery (2006), ‘Review of Thims’ draft manuscripts’

The following are a few selected rows to get the basic idea:

4	CH_4ON_2	Urea	4.6 BYA
5	$\text{C}_{10}\text{H}_{16}\text{O}_{13}\text{N}_5\text{P}_3$	DNA	
6	$\text{C}_{21}\text{H}_{36}\text{O}_{16}\text{N}_7\text{P}_3\text{S}$	Coenzyme A	
7	$\text{C}_4\text{H}_3\text{O}_2\text{NS}_2\text{NaI}$	mol-7	4.4 BYA
10	$\text{C}_{55}\text{H}_{55}\text{O}_{54}\text{N}_{54}\text{P}_{52}\text{S}_{52}\text{Ca}_{52}\text{K}_{52}\text{Cl}_{52}\text{Na}_{52}$	Intermediate	4.2 BYA
15	$\text{C}_{100}\text{H}_{100}\text{O}_{100}\text{N}_{99}\text{P}_{88}\text{S}_{88}\text{Ca}_{88}\text{K}_{88}\text{Cl}_{88}\text{Na}_{88}\text{Mg}_{88}\text{Fe}_{88}$ $\text{Si}_{84}\text{Mn}_{82}\text{Co}_{82}$	Prokaryote (Bacteria)	3.85 BYA
22	$\text{C}_{222}\text{H}_{222}\text{O}_{222}\text{N}_{221}\text{P}_{20}\text{S}_{19}\text{Ca}_{20}\text{K}_{18}\text{Cl}_{18}\text{Na}_{18}\text{Mg}_{18}\text{Fe}_{17}\text{Fe}_{17}$ $\text{Zn}_{16}\text{Si}_{16}\text{Cu}_{15}\text{I}_{14}\text{Mn}_{14}\text{Se}_{14}\text{Mo}_{13}\text{Co}_{13}\text{V}_{12}$	Fish	0.7 BYA
24	$\text{C}_{266}\text{H}_{266}\text{O}_{266}\text{N}_{25}\text{P}_{24}\text{S}_{23}\text{Ca}_{24}\text{K}_{22}\text{Cl}_{22}\text{Na}_{22}\text{Mg}_{22}\text{Fe}_{21}\text{Fe}_{21}$ $\text{Zn}_{20}\text{Si}_{20}\text{Cu}_{19}\text{Be}_{19}\text{I}_{18}\text{Mn}_{18}\text{Se}_{18}\text{Cr}_{18}\text{Mo}_{17}\text{Co}_{17}\text{V}_{16}$	Old World Monkey	30 MYA
26	$\text{C}_{277}\text{H}_{277}\text{O}_{277}\text{N}_{26}\text{P}_{25}\text{S}_{24}\text{Ca}_{25}\text{K}_{24}\text{Cl}_{24}\text{Na}_{24}\text{Mg}_{24}\text{Fe}_{23}\text{Fe}_{23}$ $\text{Zn}_{22}\text{Si}_{22}\text{Cu}_{21}\text{Be}_{21}\text{I}_{20}\text{Sn}_{20}\text{Mn}_{20}\text{Se}_{20}\text{Cr}_{20}\text{Ni}_{20}\text{Mo}_{19}\text{Co}_{19}\text{V}_{18}$	Human (<i>H. Sapiens</i>)	0.2 MYA

It was at this point, during and shortly after the construction of this table, that the question of the presumed or supposed-to-have-existed ‘origin of life’ began to become suspect? If each species is simply a larger more complex ‘molecular form’, as Ovid and Goethe might phrase things, and each species can be quantified by its Gibbs energy based formation energy, then why should any particular row be defined as being alive?

Clearly, we do not define urea, the species shown in row four, to be alive. Why then should we all of a sudden defined DNA, a row-five species to be alive or a living molecule? This sort of baseless division makes no sense what so ever?

10.4 | Clearly ridiculous! (2007)

In 2007, Thims, in his *Human Chemistry*, published a summary of this logic and table in his ‘Molecular Evolution’ chapter. In this chapter, after citing Carl Woese’s 1967 ‘RNA molecule = first life’ theory, stated the following:

“As such, if we are to naively believe that the 5-element RNA was the ‘first form of life’, then we would also have to believe the following backwards logic:

$\text{C}_4\text{H}_7\text{O}_4\text{N}$ (aspartic acid) = not alive [?]

$\text{C}_{10}\text{H}_{12}\text{O}_6\text{N}_5\text{P}$ (ribonucleic acid) = **alive!**

$\text{C}_{21}\text{H}_{36}\text{O}_{16}\text{N}_7\text{P}_3\text{S}$ (coenzyme A) = more alive [?]

This type of reasoning, in which small 4-element molecules, such as aspartic acid, a crystalline amino acid found especially in plants, are ‘not alive’, whereas 5-element molecules, such as RNA, are ‘alive’, is **clearly ridiculous**. The hypothesis put forward herein, to reconcile these areas of theoretical inconsistency, is that the human organism is a 26-element molecule and that it as well as all other large-element molecules are dynamic atomic structures found within a 92-element, heat-fluxed, environment, which together react, form, and break bonds, evolve, and reproduce according to the four laws of thermodynamics. Moreover, there is no such reality as there being a specific energy-filled ‘spark day’ in the earth’s past in which molecules suddenly became lifelike, alive, or imbued with life, etc., as is currently believed.”

Thims, at this point, although he could not yet “see” the solution, had, nevertheless drawn a “line in the sand” of absurdity, in that, after explaining, in his “Molecular Evolution” chapter, how humans, which are told ARE alive, by de-facto definition, had “evolved” over time, or rather correctly been “synthesized” over

time, from hydrogen, which by definition is NOT alive, he had gleaned that there was something funny or "ridiculous" going on in the search for the one magically-mechanistic day, in the past, wherein, supposedly, atoms join to form a molecular structure that is alive?

In 2008, Thims, after becoming aware of Sterner and Elser's *Ecological stoichiometry*, penned the small booklet *The Human Molecule*, so to better summarize the two views, along with others, historically, e.g. Henry Adams (1910), who had theorized about humans defined as molecules or chemical species.

14.4 | Debate

In Dec 2008 to Jan 2018, Thims 'clearly ridiculous' defunct theory of life discernment, bubbled over into a prolonged heated debate, which took place in online forums, emails, public dialogue peer reviews for JHT articles, conferences, and meetings, which did not begin to cool down until about 2013, lasting a decade in total. The following are the main forum threads, from the Hmolpedia 2020 edition, where the bulk of the debate occurred:

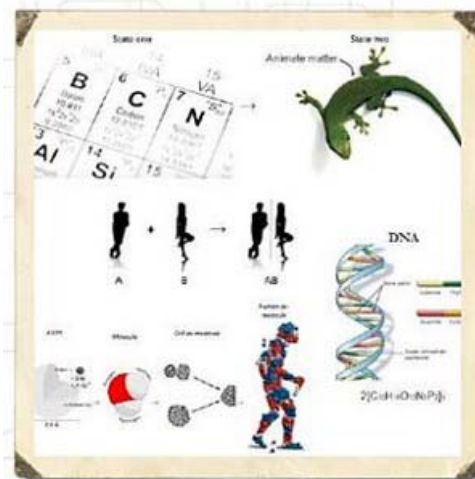
1. Philosophical question of chicken or egg first? (18 Dec 2008 to 26 Mar 2009) (posts: 14) (page: Libb Thims publications) – Hmolpedia 2020 Threads.
2. Origin of life (4 Dec 2010 to 7 Feb 2011) (posts: 90) (page: origin of life) – Hmolpedia 2020 Threads.
3. Defunct in the first sentence (Apr 1 2011 to 22 Oct 2012) (posts: 6) (page: life) – Hmolpedia 2020 Threads.
4. Unbridgeable gap (11 Jan to 11 Oct 2012) (posts: 27) (page: unbridgeable gap) – Hmolpedia 2020 Threads.
5. Unbridgeable gap (12-13 Jan 2011) (posts: 8) (page: unbridgeable gap) – Hmolpedia 2020 Threads.
6. Defunct theory of life (2 Feb 2011 to 10 Sep 2012) (posts: 94) (page: defunct theory of life) – Hmolpedia 2020 Threads.

Other similar posts, began to grow in the period to follow:

1. Smartest man alive (9 Jan 2012) (posts: 2) (page: The Animate and the Inanimate) – Hmolpedia 2020 Threads.
2. Maximum entropy, equilibrium, and head death (14-16 Jun 2012) (posts: 43) (page: maximum entropy) – Hmolpedia 2020 Threads.
3. Life (16-20 Jun 2012) (posts: 31) (page: defunct theory of life) – Hmolpedia 2020 Threads.
4. Misrepresentation (20 Jun 2012) (posts: 12) (page: defunct theory of life) – Hmolpedia 2020 Threads.
5. Biocule and other comments (26 Jun 2012) (posts: 3) (page: Lloyd Morgan) – Hmolpedia 2020 Threads.
6. Animateology (11 Jul 2012 - 30 Nov 2013) (posts: 7) (page: biology) – Hmolpedia 2020 Threads.
7. Life revisited (6-8 Aug 2012) (posts: 10) (page: defunct theory of life) – Hmolpedia 2020 Threads.
8. Morality (7-18 Oct 2012) (posts: 9) (page: defunct theory of life) – Hmolpedia 2020 Threads.
9. Bio terminology note (20 Oct 2012) (post:1) (page: Kalyan Annamalai) – Hmolpedia 2020 Threads.
10. Hello (14 Jul 30 Oct 2013) (posts: 13) (page: general discussion) – Hmolpedia 2020 Threads.
11. Inevitable life? (3-19 Sep 2016) (posts: 7) (page: general discussion) – Hmolpedia 2020 Threads.
12. I would look to Descartes First Mediations on Philosophy (posts: 153) (page: atheism) – Hmolpedia 2020 Threads.
13. Panbioism (21-28 Apr 2018) (posts: 15) (page: panbioism) – Hmolpedia 2020 Threads.
14. Heated discourse (30-31 Jan 2018) (posts: 15) (page: physicochemical atheism) – Hmolpedia 2020 Threads.

Each of these treads can be read individually online and for easier reading, the bulk of the discussion has been connected into one 144-page pdf file.²

DEBATES OF THE HMOLEPEDIANS



The bulk of the debate began to arise, in particular, between **Thims**, the central provoker in the debate, **Ted Erickson**, an American chemical engineer and physicist, who argued that life or awareness arose at the Planck-length scale, **DMR Sekhar**, and Indian chemical engineer, who wanted to argue that life could be explained via the invention of a property he called ‘genopsych’, meaning some kind of psychologic energy force inside of genes, **Georgi Gladyshev**, a Russian physical chemist, and author of *Thermodynamics*

Theory on the Evolution of Living Beings (1998), who believed he could explain how a ‘living being’ evolved from atoms, thermodynamically. Another key debate intermediary was **Jeffrey Tuhtan**, an American-born German civil engineer who was at the time working on his PhD in eco-hydraulic engineering, specifically on the topic of describing fish ecosystems, in the rivers near hydraulic plants, thermodynamically.



Tuhtan had been attracted to the discussion because of Thims calculation of the molecular formula for a fish, in his *The Human Molecule* (2008), and was consulting both Gladyshev and Thims during his PhD dissertation research. Another earlier commentator was: Andrew Morrow, an American chemical engineer, who since 2006, had been promoting a humans are a mosaic of atoms with a mind philosophy:

“You are made of atoms and there is no escape from this knowledge. Peace and happiness but first you must be wiser. People are ‘mosaics of atoms’ with a mind.”

— Andrew Morrow (2006/2008), aggregate quote, from his personal wiki and YouTube channel

Another observer and question asker during the discussion was **David Bossens**, a Belgian philosopher, who was on the process of working on his MS degree in psychology. Later into the game, Inderjit Singh, and American-born Indian philosopher joined. Then Mirza Beg, author of *New Dimensions in Sociology: a Physico-chemical Approach to Human Behavior*, engaged with Thims on the abioism question. Lastly, Alfred Rogers, who in 2010 launched the website LifeDoesNotExist.com joined in, via email discussion, and contributed a video.

As to when exactly the debate began to warm, details seem to be lost in email land and undocumented online posts. On 2 Jan 2009, however, Thims sent the following email to Gladyshev:

“You agree with me that the single atom is not alive. What about two atoms? What about three? Does a bound state of atoms have to have a certain movement to be considered alive? What if we heat a system of four atoms, do they suddenly become alive? What if we subject a system of atoms to both gravitational and electromagnetic forces, does that suddenly make them alive? What if the two forces act to move smaller atoms through the cavities of larger atomic [structures] [molecules] on a cyclical basis, thus activating reactions [metabolism] in the process, does that make them alive? What if the two forces begin to arrange the atoms into hierarchies, and that smaller atoms and bundles of atoms begin to move between the hierarchies, does that make them alive? What if a structure of atoms, begin to turnover their internal atoms, with those of the surrounding space, on a cyclical basis, does that make it alive?

It should be very obvious that no matter how many atoms one adds to the argument that an atom or a structure made of two or more atoms cannot be alive. It is my view that one cannot define an atom or two or more atoms structured as a bound state to be alive. The word itself and baggage of theory surrounding the word is meaningless. It is akin to the words: vitalism, élan vital, hylozoism, panpsychism, etc. From the point of view of the molecular evolution table, according to current views, rows 1-10 are considered to be not alive, rows 11-28 are considered to be alive, and rows 30 and above are not alive. Because of our anthropocentric biases, we continue to believe that we are unique among molecular structures, in that those much smaller or much bigger than us are not alive, whereas we are. It is a grave mistake to believe in this fallacy. I am not quite sure what the alternative theory is; but **from the point of view of atoms, molecules, and the logic of the chemistry textbook, the theory of the conception an atom, or two or more attached atoms, being alive is absurd.** This is my view.”

— Libb Thims (2009), “Letter to Georgi Gladyshev”, Jan 2

This was where the match was lit that started the flame of the debate. Thims, on 16 Mar 2009, re-printed this letter as an article entitled ‘Life: a Defunct Scientific Theory’, in the *Journal of Human Thermodynamics*, at

which point a personal email dialogue became a public topic of discussion. To fully cover the details of this debate, would result to bloat this book, beyond a simple read. We will but simply give a few summary highlights.

In Dec 2010, Thims was pushing harder on Gladyshev, to get him to give an exact thermodynamic description of how atoms became a living thing on one particular day? Gladyshev's answer was the following response:

"The 'chemical' evolution *smoothly goes into* the 'biological' evolution. This period is the time interval of 'mixed' evolution. The emergence of life is connected to the visible manifestation of supra-molecular thermodynamics, which predetermines the action principle of stability of substance. Period of emergence of a metabolism."

— Georgi Gladyshev (2010), Thread: Origin of Life (post #2), Dec 4

Here, according to Gladyshev, *chemical* 'smoothly' becomes *biological*, whatever that means? The more Thims pressed Gladyshev, the more frustrated he became. He eventually withdrew from the debate, referring to the premise that life does not exist as manifestly absurd:

"At this juncture, I would like to express my opinion about many new big publications of Libb. I do not want to have any relation to the *manifestly absurd* [!] notions about '**non-existent theory of life**' and the widespread use of the term 'molecule'."

— Georgi Gladyshev (2013), "Life as a Phenomenon", Blog

In Aug 2010, DMR Sekhar, having engaged in the Hmolpedia forum debates for some time, began to blog out various articles, the first being 'On Self and Non-Self', wherein he says although he respects Thims, he disagrees with him about the defunctness of life. Sekhar followed this up with an expanded blog, intitled 'Paradox of Life', wherein he gives his so-called 'hotplate objection', to why he thinks he is alive.

"Let us consider an experiment where a jar of water and a conscious man were placed on two hot plates of two feet by two feet size and let us switch on the hot plates. What we will observe is that in the first case the jar remains on the hot plate and the water will become hot. In the second case the man will jump out of the hot plate trying to preserve himself and **hence he is 'alive' unlike the water molecules.**"

— DMR Sekhar (2010), 'The Paradox of Life: Life a Defunct Scientific Theory', Aug 20

Sekhar here says that if you put a water molecule and a person (or human molecule) on a hotplate, and then turn up the heat on both burners, that water will boil-off, or evaporate off, where as humans will jump-off, owing to conscious choice, and that it is the 'self' that is behind the jumping mechanism, and that this self is independent of physico-chemical laws.

In 2011, DMR Sekhar, in his blog 'Eddington's Psycho-syndrome', elaborated on his objections as follows:

"Libb desperately argues that he does not pull himself up [against gravity] while climbing up stairs, but explains that some *external* electromagnetic forces pull him up. What are those external forces?"

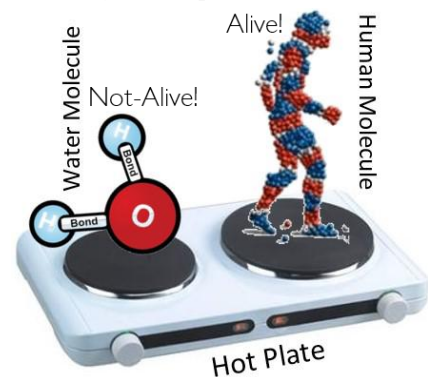
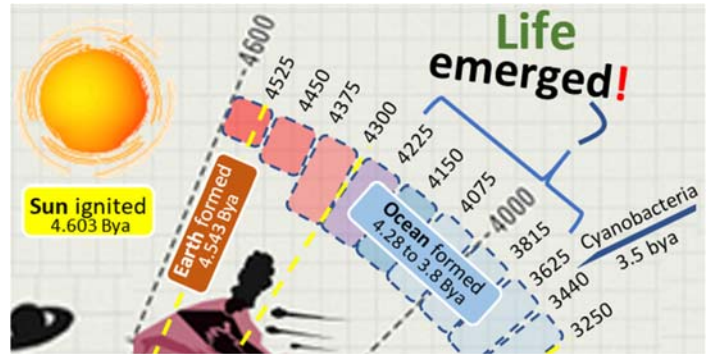
— DMR Sekhar (2011), 'Eddington's Psycho-Syndrome', blog, Mar

What are the external forces that move a person indeed? Sekhar, having absorbed what Thims explained to him during the debate, replied as follows:

"Thims, to justify 'life is a defunct theory', argues that his actions and behavior or not 'self-controlled' or 'self-driven', but are governed by external electromagnetic forces. Arrogance, as we see, leads to ignorance and scientific blindness."

— DMR Sekhar (2011), 'Eddington's Psycho-syndrome', blog, Mar

Thims, according to Sekhar, presumably, is suffering from some type of psychological syndrome, which explains why he believes that life does not exist? One who believes that life does not exist, according to Sekhar, is an arrogant psycho! Sekhar elaborates as follows:



“Thims’ science is laced with extreme atheism and materialism and hence his precarious position. Science needs to be kept at equal distance and away from both atheism and materialism. **I can’t stop but laugh at myself when I think that I am not ‘alive’ or that I am not ‘moving’ myself.**”

— DMR Sekhar (2011), ‘Eddington’s Psycho-syndrome’, blog, Mar

Sekhar here is just uneducated and biased by beliefs he was taught as a child. We can but compare Sekhar’s viewpoint, with that of Maxwell’s understanding of why he moves:

“I cannot help thinking about the immediate circumstances which have brought a thing to pass, rather than about any ‘will’ setting them in motion. **What is done by what is called my ‘self’ is, I feel, done by something greater than myself in me.**”

— James Maxwell (1879), “Comment to Fenton Hort when terminally ill”

Maxwell here, to clarify, is not talking about ‘god’. The proof of this is based on the fact that is last *dying* poem, ‘A Paradoxical Ode’, was dedicated to Percy Shelley, England’s most-famous atheist, who explained, in c.1817, that people move about, react with each other, form relationships, and fall in love, by the forces of chemical affinity.

Sekhar eventually summarized his objections in the book *Genopsych: a Coinage in the Foundry of Biology*, available on Amazon, wherein he attempts to refute abioism, most of which amounting to some sort of quasi-religious and or free will objection.

In 2011, Kalyan Annamalai, an Indian-born American mechanical engineering professor at Texas A&M University, in his *Advanced Engineering Thermodynamics* textbook, while not directly involved in the debate, cited Thims’ 26-element human molecular formula, and defined a human as a ‘26-element energy / heat-driven dynamic atomic structure’.⁴ At this point in human history, according to graduate-level advanced engineering thermodynamics, a human was no longer defined as a living thing, but now an energy and heat-driven dynamics atomic structure. Abioism, officially, found its scientific seal of approval!

In 2012, Jeff Tuhtan completed his PhD, entitled *A Modelling Approach for Alpine Rivers Impacted by Hydropeaking: Including the Second Law Inequality*, wherein, on his opening page, we see, in the vocabular he uses, namely he employs the term ‘animate systems’, instead of referring to fish-filled aquatic ecosystems, in defunct speak, as living systems thermodynamics:

“The inspiration of this work is taken from Mauersberger’s (1985) thought-provoking application of Planck’s theory of dilute solutions applied to aquatic ecosystems. The bold step is taken suggesting that aquatic ecosystems follow the same physical laws as their inanimate molecular counterparts, and we can thus use the science of energy, thermodynamics as the common language in describing their roles and interactions within the ecosystem. Concepts relating thermodynamics to **animate system behavior** are taken from the works of: Boltzmann, Clausius, Schrodinger, Jorgensen, Gladyshev, Zotin, Sterner, Elser, Morowitz, Glaser, Mauersberger, Ebeling, Katchalsky, Bejan, Ulanowicz, Mikulecky, Rosen, Elsasser and most recently **Thims**. These unique researchers have **boldly taken chemical or thermodynamic stances** when contemplating ‘animate systems’ development, **often inviting great controversy.**”

— Jeffrey Tuhtan (2012), *A Modelling Approach for Alpine Rivers Impacted by Hydropeaking: Including the Second Law Inequality* (pg. 1)

The following is another reflection of Tuhtan, when probed by Thims about his ‘life and death’ beliefs, in respect to an article (or video) about ‘big questions’ that kids ask:

“Origins: probably 4-5 years old, I believed that I came from some sort of light source, probably the sun. My first word was also “light”. Life and death: I grew up in the country, so we had dead animals around all the time. Probably 6 or so before I thought about my own death as inevitable. Existence: I neglected this question until coming across your *Human Molecule* [2008] book at around age 30. I don’t believe in the common sense notion of life. **There does not seem to be any evidence that I am alive.**”

— Jeff Tuhtan (2013), response to query on “big questions” recollections, Apr 22

In 2013, David Bossens, a Belgian philosopher, who, while working on his MS degree in psychology, took part in the debate, published *Debates of the Hmolpedians*, available on Amazon, cover shown previous, which gives a good summary of the key points of the debate.

In May 2014, Thims became aware of the thermodynamics-based origin of life theoretical ideas of Jeremy England, who was using computer simulations to prove that life can be defined as a dissipative-driven far from equilibrium structure, being ‘fueled by the production of entropy’. England, who completed his BS in biochemistry (2003) at Harvard, then studied under a Rhodes Scholarship at Oxford (2003-2005), then completed his PhD in physics (2009) at Stanford, then became an MIT physics professor (2011), and of recent became a senior director in artificial intelligence and machine learning at GlaxoSmithKline (2019), has a certain amount of so-called *credentialism* to his name. Hence, beginning in about 2017 his thermodynamic origin of life theory began to be touted in the Internet sphere as the new big thing.

Thims contacted England via email in 2014 and explained to him that Sherrington (1938) basically proved that life cannot be explained by physics and chemistry, and directed him to the Hmolpedia defunct theory of life page and life terminology reform page. This, however, had little effect on England, and he went the opposite direction, becoming an ordained rabbi in 2019 and then published the book *Every Life is on Fire: How Thermodynamics Explains the Origins of Living Things*. It would take us far beyond the scope of this book to disprove everything in England's theory. Thims has read through hundreds of theories like his, they are all the same at bottom. In England's case, his mind wants to justify Judaic beliefs with modern science.

On 23 Jun 2016, Alfred Rogers made a video, on his 'Life Does Not Exist' view and website, which he mailed to Thims, which Thims and Inderjit Singh, in Chicago, debuted for the Human Chemistry 101 YouTube channel, by each giving some introductory commentary on abioism and Roger's website; Singh said the following:

"As Rogers said, the difference between life and nonlife, is the difference between plants and animals. The whole 'life terminology issue', finds its roots in organized religion, and the mythology that forms the basis of organized religion. The word 'life' and the word 'death', need to be removed and replaced with more modern accurate terms. Doing this will allow for more scientific advancement and more rapid progress, because it will *change* the way that human beings perceive the world, instead of *living* and *nonliving*."

— Inderjit Singh (2016), Introduction to Alfred Rogers' 'Life Does NOT Exist' video, Jun 23

In reflection on this Rogers video, Thims later summarized things as follows:

"5,000 years ago, people, e.g. Egyptians (3100BC), believed the sun was 'alive', now we don't. 300 years ago, people, e.g. Carl Linnaeus (1735), believed that stones are alive, now we don't. 100 years ago, people, e.g. Henry Bray (1910), used to believe the universe was 'alive', now we don't. 50 years ago, people, e.g. James Lovelock (1965), used to believe the earth was 'alive', now we don't. 10 years ago, all people used to believe they are alive, now a growing number of people, e.g. Jonathan Dowling (1998), Alfred Rogers (2010), Ferris Jabr (2013), Inderjit Singh (2014), among others, don't. **'What everyone believed yesterday, and you believe today, only cranks will believe tomorrow'** (Crick, 1966)."

— Libb Thims (2016), Note posted on Alfred Rogers Abioism video, Jun 23



On 28 Jun 2016, Thims, gave a talk entitled "Lotka's Jabberwock: On the 'Bio' of BioPhysical Economics", at the University of District of Columbia, Washington, DC, during the 7th BioPhysical Economics Conference, which is available on YouTube.³ The title is a reference to Alfred Lotka's 1925 'Regarding Definitions' chapter, which we have touched on.

In the screenshot of this talk, shown adjacent, we see Thims talking about how Joule objected to the objected to the term 'living force', in reference to springs *expanding* and balls *falling*, and how this eventually to upgraded to the term 'kinetic energy'. The implication of this, in terms of historical prototype seen here, is that we are now objecting to the term 'alive' and 'living', in reference to social systems expanding and people falling in love, and that NEW terms are needed to explain these phenomena, using exact scientific language, instead of mythical language and divine terminology.

This talk, and the corresponding Flickr slides drafted for the talk, which was limited to about 15-minutes, owing to conference scheduling confusions, were the draft seeds for this book. The talk and online Flickr slides should be consulted after reading this chapter or book.³

In 2019, Thims (EPD:M12), from 16 to 19 Sep, went to Karachi, Pakistan, to meet Beg (EPD:F11) so to interview him, on camera, about his *New Dimensions in Sociology: A Physico-Chemical Approach to Human Behavior*, which resulted in 48 video parts, totaling 22-hours (1,297-min) of educational viewing time. Curiously, during the meeting, Thims discovered that Beg, like himself, was an product of 'early parental *death*' (EPD), a phenomenon common to Lavoisier, Newton, and Boyle, three other chemistry founders. Thims mother 'died' when he was age twelve (M12). Beg's father 'died' when he was age eleven (F11). Beg and Thims, similarly, accordingly, both started thinking about life and death at an early age.

On 17 Sep 2019, during video interview part day 2.2, Thims showed Beg the molecular evolution table, and asked him to explain the difference between life and non-life, in terms of which molecular species row was the first form of life. His response was that the DNA molecule is a chiral molecule and that it is DNA that initiates life, and that this is the difference between life and non-life:

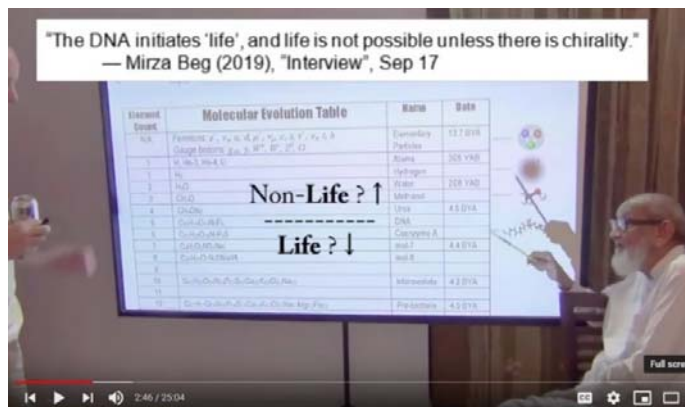
“The DNA initiates ‘life’ and life is not possible unless there is chirality.”

— Mirza Beg (2019), “Interview Day 2.2” (2:44-), Sep 17

This answer, to explain by way of parallel example, is no different that when Petrus Camper told Goethe in 1784 that humans did not evolve from monkeys and other animals, because animals possess and intermaxillary bone, which humans do not possess.

All of these various objections, discussed above, such as chirality, intermaxillary bones, self-motion, and what not, are religious belief objections, in principle:

- CAMPER (1784) was objecting to Goethe, because he believed in a son of god named Jesus, descendant from a patriarch named Abraham and a flood man named *Noah*.
- SEKHAR (2010) objected to Thims, because he believes in a god named Brahma who was born out of the naval of a god named *Vishnu*.
- ENGLAND (2014) objected to Thims, because believes in an unnamed god who told *Noah* to make an ark and who then fathered, by lineage, a man named Abraham.
- BEG (2019) objected to Thims, because he believes in a god named Allah who flew through the sky on a winged donkey to meet Ibrahim and *Nuh* during his famous ‘night journey’.



All four of these belief objections, stemming from Christianity, Hinduism, Judaism, and Islam, respectively, as ordered above, barring prolonged digression, derive from the Egyptian Ra (sun god) born out of *Nun* (water god) cosmology. The lay reader can easily spend decades wasting time checking to see if what I have just said is correct or not. It took Thims, in fact, a full two-decades of religio-mythology research, to be able to say what is in these four bullet points in frank and direct speak. In sum, just as Crick intuited, at the bottom of every vitalist is the finger of some quasi-mystical scientific god wiggling around in the brain.

Synopsis: Life is a defunct concept. More work is needed to upgrade our minds to the correct modern physico-chemical view of things.

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(b) <https://youtu.be/4GqJBVnv8G8>

15. Modern Abioists

“Sporadic great men come everywhere. But for a community to get vibrating through and through with intensely active life, many geniuses coming together and in **rapid succession are required**. This is why great epochs are so rare, – why the sudden bloom of a Greece [Aristotle], an early Rome [Cicero], a Renaissance [Goethe], is such a mystery. **Blow must follow blow** so fast that no cooling can occur in the intervals. Then the mass of the nation glows incandescent, and may continue to glow by pure inertia long after the originators of its internal movement have passed away.”

— William James (1880), “Great Men, Great Thoughts, and the Environment” (pg. 453)

Chapter point: To summarize the newly-forming *abioism paradigm change*, seen with Thims JHT publication of the ‘Life: a Defunct Scientific Theory’ (2009), followed by Alfred Rogers (2010) and Jonathan Dowling (2013) both publishing life does not exist views; followed by Ferris Jabr (2013), Jiri Benovsky (2017), and an anon blogger (2020) all independently publishing on abioism. [length: 7-pgs]

In order for a *paradigm change* or grand shift in scientific thinking to proceed, according to Thomas Kuhn, as outlined in his *The Structure of Scientific Revolutions* (1962), two or more people have to *simultaneously* and *independently* arrive at the same revolutionary conclusion. The following six people, in the last decade or two, have *independently* arrived at the conclusion that life does not exist:¹

Abioism Philosophers



Jonathan Dowling

(0-65 AE)
(1955-2020 ACM)
Idea: 1998
Argued: 1998-2004
Published: 2013



Alfred Rogers

(22- BE)
(1933- ACM)
Idea: 1990s
Argued: N/A [2010]
Published: 2013



Libb Thims

(17- AE)
(1972- ACM)
Idea: 2007
Argued: 2009-2013
Published: 2009



Ferris Jabr

(31- AE)
(c.1986- ACM)
Idea: N/A
Argued: 2013-2014
Published: 2013



Jiri Benovsky

(30- AE)
(c.1985- ACM)
Idea: N/A
Argued: 2018
Published: 2017



FreakyBit

(35- AE)
(c.1990- ACM)
Idea: N/A
Argued: N/A
Published: 2020

In respect to the origin of species, it was two people, namely: Alfred Wallace and Charles Darwin, in the 1850s. In respect to the discovery of the conservation of energy, it was primarily three people, namely: Robert Mayer, Hermann Helmholtz, and James Joule, in the 1840s.

The first key factor here is ‘independence’, which signifies that the idea come from the forces of sensor surroundings, through the mind, and out into verbal, paper, or experimental conclusions. The second key factor here is period overlap. Each of the examples cited, overlapped in a five to ten year period, when the views were going public. The reason for this is that blows must come in succession to the minds involved, so much so, according to William James, shown in opening quote to this chapter, that no cooling effect can accrue.

In independent arrivals are separated by generations or centuries, e.g. the 390-year cooling gap between Fernal (1548) and Sherrington (1938), Fernal being the fuel behind Sherrington’s public *Man on His Nature* lecture, and therefore there is not enough public tinder or social kindling for the novel reforming idea to catch fire or to heat up from successive hammer blows.

In respect to the discovery that ‘life does not exist’, similar to how we discovered in the 1900s that ‘ether does not exist’, so far, it has been six people, namely: Libb Thims (2007), Jonathan Dowling (2013), Alfred Rogers (2013), Ferris Jabr (2013), Jiri Benovsky (2017), and a blogger named Freaky Bit (2020), dates shown being first public publication of this view, the first three being completely independent arrivals, the latter three presumed to be independent views, based on the wording and structure of the argument, and lack of citations.

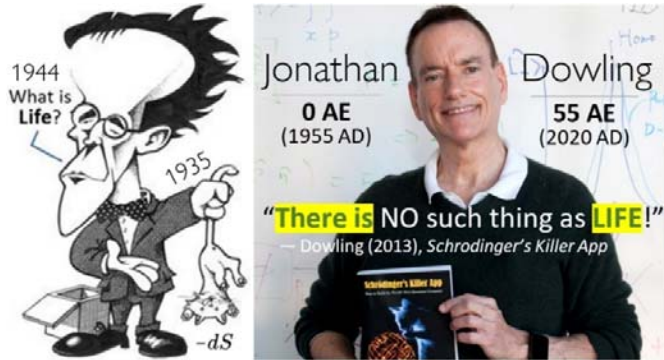
The following sections will compare and contrast these six independent abioism philosophers, in respect to word commonality and idea overlap. Focus will also be on idea origin, e.g. Dowling’s and Benovsky’s views originated from thoughts on extra-terrestrial ‘life’, whereas the conclusions of Jabr and FreakyBit were both derived, in part, from thoughts about viruses.

15.1 | Dowling: No such thing as life nor extraterrestrial life (1998)

In 1935, Erwin Schrodinger, in his article ‘The Present Situation in Quantum Mechanics’, published in the *Science of Nature* periodical, presented an argument wherein, according to present state of quantum mechanics, as then being promoted, a cat, according to this new science, could, in theory, be both ‘dead’ and ‘alive’. The following is the key paragraph:

“One can even set up quite ridiculous cases. A cat is penned up in a steel chamber, along with the following device (which must be secured against direct interference by the cat): in a Geiger counter, there is a tiny bit of radioactive substance, so small, that perhaps in the course of the hour one of the atoms decays, but also, with equal probability, perhaps none; if it happens, the counter tube discharges and through a relay releases a hammer that shatters a small flask of hydrocyanic acid. If one has left this entire system to itself for an hour, one would say that the **cat still lives** if meanwhile no atom has decayed. The first atomic decay would have poisoned it. The psi-function of the entire system would express this by having in it the **living and dead cat**, pardon the expression, mixed or smeared out in equal parts.”

— Erwin Schrodinger (1935), “The Present Situation in Quantum Mechanics”



In 1944, Schrodinger, in his overly-famous *What is Life?*, a Dublin University lecture-turned-book, argued that, according to thermodynamics, life is any ‘thing’ or body that ‘feeds on negative entropy’. This is what is called a rabbit hole statement. It can send the mind down Alice’s wonderland rabbit hole for a decade or more, simply trying to figure out if this is true or not.

The author (Thims), in fact, was down into the deep recesses of Schrodinger’s rabbit hole, for a full decade at least, but eventually came out, and saw the light of day. Thims’ May 66AE (2021) video ‘Life Feeds on Negative Entropy’, and corresponding Hmolpedia article, explains the errors in Schrodinger’s arguments.²

In 2013, Jonathan Dowling, pictured below right, in his *Schrodinger’s Killer App*, in a footnoted digress about Schrodinger’s simultaneous dead and living cat, stated directly that: ‘there is no such thing as life!’

Dowling goes on to say, in this famous footnote, that this view of his, that ‘there is no such thing as life’, arose amid debates and arguments that took place from 1998 to 2004 while he was working at the NASA Jet Propulsion Laboratory, which was being funded by the government to figure out a way to detect life on Mars. Dowling explains this as follows:

“When, in 1998 to 2004, I was at the NASA Jet Propulsion Laboratory, we would have endless discussions on the definition of life. What is life? The discussions were always hinged on the *metaphysical* and **religiously-infused idea** that there should be a ‘line’ [?] — things on one side of the line were alive and things on the other were not. The game was to ‘find that line’.”

— Jonathan Dowling (2013), *Schrodinger’s Killer App* (ref #88, pgs. 429-30)

Here, Dowling, just like Crick, directly says that the arguments and discussions were hinged on ‘metaphysical and religiously-infused’ ideas. In other words, American citizens were funding a planned trip to Mars, the presumed goal of which, according to Dowling’s reports, was to find the ‘ankh of Hathor’, the ‘is of Aphrodite’, the *vis of Venus*, or the ‘breath of life of Eve’, animating some chemical thing on Mars?

Certainly, to clarify, when you have say 10 billion USD, or whatever amount, pushing you forward, you don’t stop to think about the details, of what exactly you are doing? Dowling, for whatever reason, stopped, and began to think about the exact physico-chemical details of what was being argued about, pushed, or pressed forward.

Dowling, to continue, goes on to say that during these years, of playing ‘dead / alive’ tennis at NASA, the net was divided between the *prion*-people on one court and the *virus*-people on the other court. The prion-players would say that because prion, which is a single-celled protein, famously, known for being the culprit of ‘mad cow disease’, does not have DNA, that it is not alive, and hence on the ‘dead’ side of the tennis court, shown adjacent (left).

The virus-players, on the other side of the net, would lob back some argument to the effect that virus IS alive, because it can reproduce and has DNA! Dowling recounts these absurd arguments and debates as follows:

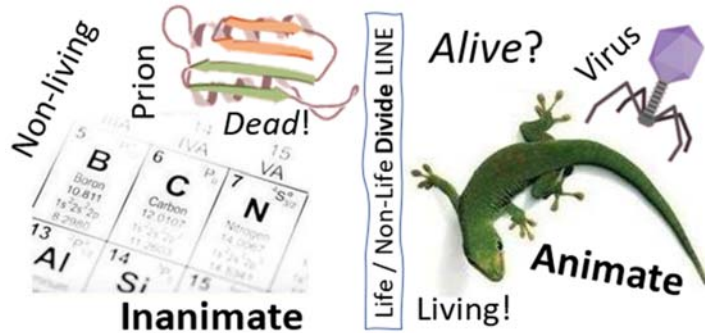
“People argued and continue to argue about this endlessly. Should it ‘reproduce’, ‘reduce the entropy’ of its environment, ‘have DNA’, or what? For example, viruses are infectious, reproduce, and have DNA and most vote they are alive (but some not). Prions, which cause mad cow disease, are malevolent proteins that reproduce, are infectious, but have no DNA. Most say they are not alive and say we should **draw the line** of life between prions and viruses.”

— Jonathan Dowling (2013), *Schrodinger's Killer App* (ref #88, pgs. 429-30)

Dowling says, in his book, that he retorted to all these NASA-scientists, the following:

“My response to these discussions was, **there is no such thing as life!** There are interesting chemical reactions, like Stephen Hawking, and less interesting chemical reactions, like salt crystals growing[7] in a glass of salt water. There is no line, no ‘breath of life’ separating living from nonliving. That is a metaphysical bit of silliness. We should focus on interesting over boring chemical reactions and forget about this line that does not exist except in our own minds.”

— Jonathan Dowling (2013), *Schrodinger's Killer App* (ref #88, pgs. 429-30)



Here, we see an intelligent mind, affronting the world. This, according to our present knowledge, was the first public statement of the abioism viewpoint.

15.2 | Rogers: LifeDoesNotExist.com (2010)

In 1990s, Alfred Rogers, and American pharmacist turned armchair philosopher in retirement, began to collect what he calls a shoebox of philosophical notes, on the idea that life does not exist. On 28 Sep 2010, Rogers registered the domain LifeDoesNotExist.com with GoDaddy.⁴ On 20 Aug 2013, according to WayBack archives, the site was active, with text explaining Roger's view or belief that "life" is a thing that does not exist. The following, from his website, are his main statements:

“**Life does not exist** in the sense that ‘life’ is not absolutely different from ‘non-life’. The difference between life and non-life is like the difference between plants and animals. A recent article in the proceedings of the National Academy of Sciences reported that bacteria locked in Antarctic ice for 100,000 to 8-million years resumed growing when given warmth and nutrients. Could they have been alive for all that time? Could any life processes been going on for that period?”

— Alfred Rogers (2013), LifeDoesNotExist.com

Here, Rogers is arguing that what we, historically, have called ‘life’, is a function of heat:

$$\text{Life} = \{ \text{elements} + \text{heat} \}$$

In other words, if we put a thing, such as seed, bacteria, insect, or a person in cryogenic state, i.e. freeze the thing, we no longer refer to it as being ‘alive’. But, if we later warm that seed or person up, then it begins to grow or move. Heat-based movement, however, does not defined life, according to Rogers. It is illogical to toss the word alive around, in respect to bacteria or seeds, when we feel it is appropriate. Rogers continues:

“If not, can a *living thing* spend an intermittent part of its life as a **non-living thing**? I think this is incongruous with life and non-life being absolutely different. During the frozen period all the conditions for life, including the DNA existed, but life did not exist. More commonly many seeds remain viable for many years under certain conditions. They go through a life cycle in part of which they are not alive. Can a living thing be not alive during part of its life?”

— Alfred Rogers (2013), LifeDoesNotExist.com

In 2014, Thims, following key term searches for ‘life does not exist’, discovered Rogers’ website, and contacted him via email, and began probing him about his beliefs for several months. The following are some of the Rogers’ responses:

“I don't know in what year I came up with the idea. It came about by realizing that what we call life can go through periods of being non-life-a seed being dormant for hundreds of years. Life, such as tobacco molds can be produced from non-life. It then appears that the difference is complexity rather than something intrinsic. **I do not believe a hydrogen atom is alive.**”

— Alfred Rogers (2014), “Email to Libb Thims”, Nov 21

Here we see a key anchor point. Once a person admits in public that they do not believe that the hydrogen atom, which is their proton-electron grandfather, so to say, is NOT alive, then they have thus planted their feet, knowingly or not, on the abioism platform. Rogers also said the following telling statement:

“I am interested in **how people will ‘react’** to the idea that the difference between life and non-life is only a matter of complexity.”

— Alfred Rogers (2014), “Email to Libb Thims”, Nov 21

How people react, as we have seen in the arguments of Goethe and Thims, is the key. From the point of view of chemical reactions and mechanisms, hydrogen to human, one cannot find a life start point. This is the core of abioism.

In late 2015 or early 2015, Thims suggested to Rogers that he present his views at the upcoming 2016 BioPhysical Economics conference, Washington, DC, a talk which Thims would be sure to facilitate to make happen. Rogers, however, was unable to attend, owing to a scheduled surgery, and made a recorded video talk, in place. Rogers in his video, shown below middle, explains that the only difference between an animate thing such as Old Faithful, a geyser in Yellowstone National Park, Wyoming, defined technically as a ‘highly predictable geothermal feature which has erupted every 44 minutes to two hours since 2000, and a paramecium, is complexity:



Rogers explains that because we know all the details of the mechanism of Old Faithful, we do not call it alive. This view, of course, might have differed from American Indians, say a thousand years ago, or so, who might have defined Old Faithful as being alive or the spirit vents of the earth god or whatever. As the science of geology has progress, however, so has our description of Old Faithful., namely not as being a living thing, but as hydrothermal-powered mechanical process. Similarly, according to Rogers, once we progress farther, in our science knowhow of the paramecium, some day we will no longer classify it as a living thing. The same likewise with respect to humans.

Thims ended up playing Roger’s video talk during the conference and uploading it to YouTube. The reader is encouraged to watch Roger’s ‘Life Does Not Exist’ video presentation, at least five times. The video, presently, has 1,340+ views, 55+ comments, with an 18↑/9↓ like ranking.

In other words, about 67 percent the general public like abioism. Those 33 percent who do not like abioism, as Crick and Dowling have discerned, dislike got theological reasons. Theos, has we have touched on, is a Greek-Egyptian word cipher for sun god, aka heat defined as a god. Those who object to abioism, accordingly, have their minds anchored in *god heat* models of the past, which they are not willing or ready to let go of. Certainly, of course, there is much work to be done to move from god heat models past, through the baseless nihilism models of the 19th century, into modern human chemical thermodynamics. Prior to engaging in discourse in this direction, however, we have to get on the same page with respect to basic terminology.

15.3 | Jabr: Why life ‘really’ does not exist (2013)

In Dec 2013, Ferris Jabr, a science writer, in the brainwaves blog section of *Scientific American*, penned a article entitled ‘Why Life Does Not Exist’, as shown adjacent. Here we see abioism becoming main stream. *Scientific American*, founded in 1845, is oldest continuously published monthly magazine in the United States. Jabr opened to the following:

“Why is defining life so frustratingly difficult? Why have scientists and philosophers failed for centuries to find a specific physical property or set of properties that clearly separates the living from the inanimate? Because such a property does not exist. Life is a concept that we invented.”

— Ferris Jabr (2013), “Why Life Does Not Really Exist”, Dec 2

This a good start. Life is an *invented* concept. It was invented in Egypt, prior to the building of the pyramids. The basic model, of the invented concept of life, is that the sun has to pass through the cloudy white matte of the Milky Way, prior to being *reborn* in strength, and getting its ‘life’ back.

“On the most fundamental level, all matter that exists is an arrangement of atoms and their constituent particles. These arrangements fall onto an immense spectrum of complexity, from a single hydrogen atom to something as intricate as a brain. In trying to define life, we have **drawn a line** at an arbitrary level of complexity and declared that everything *above* that border is alive and everything *below* it is not. In truth, this division does not exist outside the mind. There is no threshold at which a collection of atoms suddenly becomes alive, no categorical distinction between the living and inanimate, NO Frankensteinian spark. We have failed to define life because there was never anything to define in the first place.”

— Ferris Jabr (2013), “Why Life Does Not Really Exist”, Dec 2

Jabr, here, like Dowling, says boldly: ‘there is no line!’

Jabr goes on to state that he arrived at this view from thoughts on the difference between his cat jumping around its play jungle and his brother’s K’Nex roller coaster set, as shown adjacent. He says the following about this:

“Recently, however, I had an epiphany that has forced me to rethink why I love living things so much and reexamine what life is, really. For as long as people have studied life they have **struggled to define it**. Even today, scientists have no satisfactory or universally accepted definition of life. While pondering this problem, I remembered my brother’s devotion to K’Nex roller coasters and my curiosity about the family cat.”

— Ferris Jabr (2013), “Why Life Does Not Really Exist”, Dec 2

He goes on to say, in his ruminations, why do we call the cat alive and the K’Nex inanimate? He concludes, are not both the cat the K’Nex just different types of machines:

“Why do we think of the **former as inanimate and the latter as alive**? In the end, aren’t they both machines? Granted, a cat is an incredibly complex machine capable of amazing behaviors that a K’Nex set could probably never mimic. But on the most fundamental level, what is the difference between an inanimate machine and a living one? Do people, cats, plants and other creatures belong in one category and K’Nex, computers, stars and rocks in another? My conclusion: No. In fact, I decided, life does not actually exist.”

— Ferris Jabr (2013), “Why Life Does Not Really Exist”, Dec 2

Now, while we cannot concur with Jabr that a cat is but a ‘machine’, as this was the terminology grappled with by Descartes in the 1620s, which, in modern terms, is not the exact language we would employ to define a cat, we do see that Jabr is venturing in the correct direction, in respect to the abioism viewpoint.

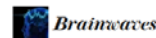
In 2014, Jabr, in his ‘Why Nothing is Truly Alive’, published in the *New York Times*, opinion section, stated the following:

“Why so much ambivalence? Why is it so difficult for scientists to cleanly separate the living and nonliving and make a final decision about ambiguously animate viruses? Because they have been trying to **define something that never existed in the first place**. Here is my conclusion: Life is a concept, not a reality. Not only is defining life futile, but it is also unnecessary to understanding how living things work. All observable matter is, at its most fundamental level, an arrangement of atoms and their constituent particles. These associations range in complexity from something as simple as, say, a single molecule of water to something as astonishingly intricate as an ant colony. All the proposed features of life — metabolism, reproduction, evolution — are in fact processes that appear at many different regions of this great spectrum of matter. There is no precise threshold.”

— Ferris Jabr (2014), “Why Nothing is Truly Alive”

Jabr here hits the nail on the head. The scientific attempt to define a thing that does not exist, specifically a mythical thing, namely the *vis of Venus*, lead to nothing but scientific jabberwocky, as Lotka famously told us.

SCIENTIFIC
AMERICAN



Why Life Does Not Really Exist

I have been fascinated with living things since childhood. Growing up in northern California, I spent a lot of time playing outdoors among plants and animals.

STAFF | By Ferris Jabr on December 2, 2013



15.4 | Benovksy: Nothing is really alive (2017)

In 2017, Jiri Benovsky, a Swiss eliminative reductionist philosopher, in his “Nothing is Alive (we only say so)” article, penned for the "Alone in the Universe? Conference", Collège de Saussure, Switzerland argued that no thing is truly alive, that being alive is not a property of things, but only a human invention, but without basis; the following is his abstract:

“Finding an adequate definition of ‘life’ has proven to be a tricky affair. In this article, I discuss the idea that **nothing is really alive**: we only say so. I shall argue that ‘being alive’ is not a genuine property of things, and that it only reflects the way we think and talk about things. An eliminativist strategy will then allow us to free ourselves from the burden of having to find a definition of life, and will allow us to focus on the genuinely interesting properties of living (and non-living) entities.”

— Jiri Benovsky (2017), “Nothing is Alive (we only say so)”

Benovsky argues that we can rid ourselves of belief in life using the "eliminativist strategy". Here, we see a version abioism arisen from thoughts on the idea of "extraterrestrial life", and what exactly this term means, similar to James Lovelock (1956), discussed shortly, and Dowling (1998).

15.5 | Bit: Being alive does not exist (2020)

In 2020, Freaky Bit, an anon blogger, in his or her article ‘I’m Less Alive than Elon Musk’, seemingly inspired by pandemic-laden thoughts on the *corona* virus, argued that no thing is alive:

“Here is the thing - organisms are by definition ‘living’ things and whether viruses are alive or not is a matter of debate. What do you mean? How is this possible that we do not know if something is alive? Quite simple. **Our definition of being alive is not derived from first principles.**”

— FreakyBit (2020), “I’m Less Alive than Elon Musk”

This is sharp discernment. To be sure that we do not fall prey to the same predicament herein, we have devoted the opening section of our ‘Introduction’ chapter to first principles. Bit continues:

“What is the conclusion from all that? That we do not really know what it means to be ‘alive’. Maybe viruses cause us so much problems because they prove that the thing that we are looking for does not exist in the first place. We assumed that the **state of ‘alive’ is a given, that’s our axiom**. What if it was wrong all this time? Being alive is a lie. How could we miss that?”

— FreakyBit (2020), “I’m Less Alive than Elon Musk”

This is good logic. Prior to the age of five, we are spoon fed the axiom that the state of alive is a matter of fact! This, however, is far from the case. If one goes searching, in the books of so-called ‘facts’, to see where life is defined as an axiom or first principle, they will end up, if they were conceived in a Western country, in the first pages of Genesis of the Bible. Bit continues:

“**Nothing is alive.** Being alive does not exist. Wait just a moment! - the crowd shouts. This is all BS. You are presenting no *evidence*, this is just pure speculation, totally unscientific! The angry mob would be right. This is not a scientific theory. Here is the thing - neither is the current theory of ‘alive’. No *magical* moment happened in evolution at which the *spark of god* came upon us. **I exist. I feel.** If I’m unlucky, one day I will stop. We are the same as everything else, just further up the scale.”

— FreakyBit (2020), “I’m Less Alive than Elon Musk”

Again, we see keen logic. I feel, therefore I exist. No thing is alive. The word *alive* is a magic word!

Synopsis: Six people, namely: Libb Thims, Alfred Rogers, Jonathan Dowling, Ferris Jabr, Jiri Benovsky, and Freaky Bit, in the last eight years, from 2013 to 2021 (66AE), have each independently published the view that *life* does not exist and that *alive* is human-invented concept not found in the fabric of the universe.



References

1. Note: Ferris Jabr (2013), Jiri Benovsky (2017), and FreakyBit (2020) are presumed to be 'independent', as they do not cite anybody in their presentations of the life does not exist view. Thims, however, at present, has not been able to corroborate this with these authors, as no contact has been made. As Thims had already published the 'defunct theory of life' view in the JHT in 2009, which thereafter began to make the rounds in the Internet sphere, it could be possible that Jabr, Benovsky, and Bit were influenced by Thims in some way, or even possibly Rogers, whose views were online in 2013, but this has not been confirmed, and all six are assumed to be 'independent' thinkers. Thims has confirmed with Rogers via email that his views were derived on their own. Dowling, who has since ceased to exist, given his published statements about his work at NASA, also seems to be an independent abioist.
2. (a) https://hmlpedia.com/page/Life_feeds_on_negative_entropy
 (b) <https://youtu.be/rcXBUzNoOqY>
3. (a) Rogers, Alfred. (2016). "Abioism: Life does NOT exist" (co-speakers: Libb Thims and Inderjit Singh) (YT), Human Chemistry 101, Jun 23.
 (b) <https://youtu.be/aq1yllaJtfl>
4. Note: Rogers, in his 2015 video, says that he 'created the webpage in the early 1990s'?

16. Extraterrestrial Life?

“My attitude has always been cosmic, and I looked on man as if from another planet. He was merely an interesting *species* presented for study and classification.”

— Howard Lovecraft (1922), ‘A Confession of Unfaith’

Chapter point: a large amount of modern *abioism* belief formed out of NASA-funded efforts to find and detect life on Mars. A short digression on this subject is presented. [length: 5-pgs]

The question of ‘life’ existing *extraterrestrially*, i.e. a life or living form existing not on the planet earth, is debate that erupted about three centuries ago. This is well-documented in Michael Crowe’s 2012 book *The Extraterrestrial Life Debate, 1750-1900*, the abstract of which is: ‘are we alone in the universe or are there other *beings* on other worlds who gaze into the night sky and try to imagine us, as we try to imagine them?’ Note that the ‘beings’ suffices as terminologically employable synonym for the defunct term ‘life’. We might similarly employ the terms: extraterrestrial intelligence in a similar vein.

The point here is that what people have searched for in looking through their telescopes and debated about following the new measurements of the astronomers is a sign of a carbon-based intelligence, similar to our own, somewhere in the universe, on an earth-like planet, i.e. an extra-terra *being* or *intelligence*, so that we can ‘feel at home in the universe’, so the saying goes.

16. 1 | Life (defunct) = ether (defunct)

In the context of planets and beings, we might note, that ‘life’, a term not shown (nor needed) in the adjacent diagram, is similar, as mentioned, to ‘either’, a so-called fifth element postulated to exist by Anaxagoras, a Greek philosopher, in 460BC, which he conceived of as being in constant rotation and carried with it the celestial bodies.

Anaxagoras’ ether model held sway until 1887, when Albert Michelson and Edward Morley, at Case Western Reserve University, performed their now-famous ‘Michelson-Morley experiment’, in which they used mirrors mounted on a stone slab, that floated in an annual trough of mercury, to attempt to measure ‘luminous ether’, but which failed to detect any such ether? Finally, in 1905, Einstein, via his new relativity theory, disabused the notion of ‘ether’, the medium in which electromagnetic waves were previously thought to propagate in, from physics. In the decades to follow, ether became categorized as an obsolete scientific theory.

The concept of life is similar to ether in that it is conceived as being in constant rotation, as captured in the phrase ‘circle of life’, and it is that which is believed to carry not the celestial bodied but plant, animal, and human bodies.

Secondly, similar to the ether-questioning Michelson-Morley experiment, we have the 1800 life-questioning invention of the electric pile or battery by Alessandro Volta, so to disprove Luigi Galvani’s animal electricity theory of life. This gave way to the 1818 *Frankenstein: the Modern Prometheus*, by Mary Shelley, based on discussions between Percy Shelley and George Byron about life, chemicals, affinities (or forces) and electricity. We also have the 1828 synthesis of urea, a presumed to be organic or living molecule, from the so-called non-living components of: dried blood, hoofs, and horns, which laid question to the then-dominant vital force theory of ‘organic chemistry’.

These experiments were followed up by new science of *physiology*, or physics of the inside operations of organisms, which has successfully disabused ‘life’ from metabolic, anabolic, catabolic, neurological, and genetic operations, as voiced in the opinions and Brucke, Sherrington, and Crick.

One salient fact that distinguishes ‘life theory’ from ‘ether theory’, however, is that in regards to the theory of ether, we know who the author is, namely: Anaxagoras, whereas in respect to the theory of life, we do not know the original author or theorist? We only know that the theory of life traces back to magic, e.g. numbers in the solar magic square, myth and astro-theology, e.g. the ankh of Hathor, modeled on the sun moving through the Milky Way.

“**Fables should be taught as fables**, myths as myths, and miracles as poetic fancies. To teach superstitions as truth is a most terrible thing. The child mind accepts and believes them, and only through great pain and perhaps tragedy can he or she be in after years relieved of them. The reason for this is that a superstition is so intangible a thing that you cannot get at it to refute it.”

— Hypatia (c.390), *Publication* (pg. #)



Life, in plain speak, is a fable. Fables should be taught as fables, and not fact. Fables or myths, however, tend to embed into deeper layers of the childhood mind of the adult, as Hypatia tells us, and as such, subsequently, are more difficult to refute, say as compared to either.

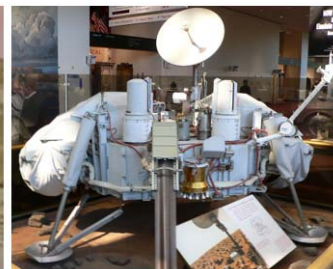
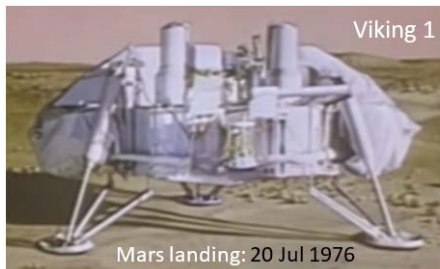
16. 2 | Martian life detection experiments (1976)

The following dates are key events in respect to space flight, the search for life on Mars, dated in both Anno Domini (AD) and Anno Elementum (AE) years:

	Event	AD	AE
1.	First man (Yuri Gagarin) in space .	1961	6
2.	First human (Neil Armstrong) on moon .	1969	14
3.	First space station (USSR)	1971	16
4.	Lovelock proposed <i>entropy reduction</i> to detect life on Mars	1975	20
5.	First soil sample from Mars .	1976	21
6.	First food (lettuce) grown and eaten in space	2015	60

Here, we see that six-years after humans were able to see atoms, they were able to put a human in space. Also, sixty-years after humans were able to see atoms, humans were able to grow and eat food in space. This sixty-year mark also coincides with the coining of the term *abioism*, from *a-*, meaning: ‘not, without, or opposite’, + *bio-*, meaning: ‘218 or magic solar diameter’, + *-ism*, meaning: ‘doctrine or idea’. In other words, sixty years after a carbon-based species is able to see atoms, it is able to figure out that it is not alive, and to arrive at a name for this new doctrine.

The key year here, in respect to abioism and question of extraterrestrial life, was 1976 when NASA put two Viking landers on the surface of Mars. The first lander, named Viking 1, shown below, touched down on 20 Jul 1976.



On 30 Jul 1976, the initial results from some of the life detecting experiments began to be reported back. The second lander touched down on or after 3 Sep 1976. The focus of discussion, in this period, was about how to measure ‘life’ scientifically? How to build a *life-o-meter*, so to say? Also, what specific meter readings would signal a living Martian thing?

Historically, prior to this historic landing, in Feb 1871, William Huggins, an English astronomer, initiated the Martian life debate, when he examined Mars with a spectroscope attached to an eight-inch refractor telescope, reporting back data indicating that there was water on Mars, which alluded to the possibility of oceans, rivers, and weather patterns similar to earths. This prompted an anonymous article entitled ‘Life in Mars’ published in *Cornhill* magazine that year, which gave, in its opinion, ‘abundant reasons for regarding Mars as a fit abode for living creatures’. This resulted, in 1873, in a series of rebuttal and refutation articles in *London Reader* and *Cornhill*, by anonymous authors, one being Richard Proctor, author of *Charts of Mars* (1867), arguing that not even vegetable life could exist on Mars for one hour owing to its coldness and limited gravity, but maybe some type of ‘red vegetation’ theoretically could exist, with microbes with different eyes?

In 1970s, James Lovelock, while working at NASA as a consultant for the planned voyager mission to Mars, suggested that to be able to detect ‘life’ on Mars, one would have to ‘look for an entropy reduction’ and or analyze the ‘chemical composition of a planetary atmosphere’ and or to look for the ‘equilibrium chemistry’ products associated with life.

In 1975, Lovelock, in his ‘Thermodynamics and the Recognition of Alien Biospheres’, wherein he intermixed Boltzmann entropy, Shannon information entropy, and chemical thermodynamics entropy, to argue that the ‘information’, or information content, of a system, the system in mind here being an ‘alien biospheric system’, could be defined, in a ‘thermodynamic sense’, by the following formula:

$$I = S_0 - S$$



where S_0 is the 'entropy of the system whose components are at equilibrium' and S is the 'entropy of the system when assembled'. Lovelock, of course, went on to develop his 'Gaia hypothesis', to argue that the earth is 'alive', and that the atmosphere of the earth is its respiration. This is an example of a step towards panbioism, and the every thing in the universe is alive. This is one of the stepping stones one must cross to get to abioism.

In 1976, when the actual landing on Mars occurred, four different experiments were performed, by two different Viking landers, 4,000-miles apart, to detect for life on Mars. One experiment, the so-called labeled release (LR) soil mixing experiment, built by engineer Gilbert Levin, claimed it found evidence of Martian metabolism and hence 'life'. The following is simplified abstract:

"Viking landers scooped up some soil and mixed it with carbon-14-labelled nutrients. Viking reports a positive result. Something is ingesting the nutrients, metabolizing them, and then belching out gas laced with carbon-14."

— Michael Brooks (2005), '13 Things That Do Not Make Sense?'

Three experiments, however, found no evidence of life. The following bloated paragraph is the non-simplified abstract of details and results of the four total life-detection experiments:

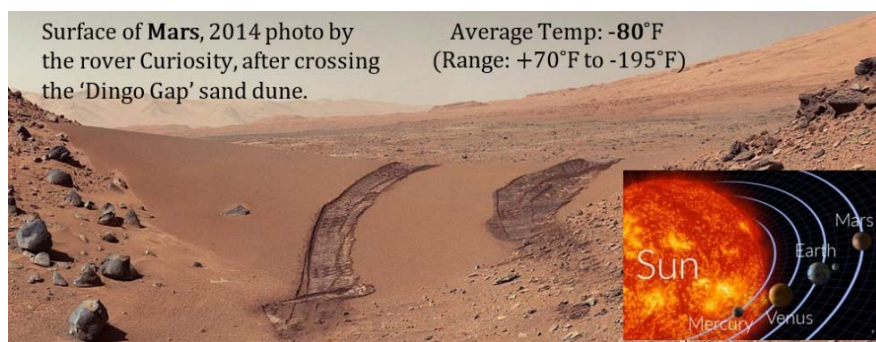
"The Viking Labeled Release (LR) experiment (Levin, 1972; Levin and Straat, 1976a, 1976b) was an experiment in radiorespirometry whereby ^{14}C -labeled organics were injected onto a soil sample in a test chamber and continuously monitored for the subsequent evolution of radioactive gas. The experiment was designed to test for the presence of life on the surface of Mars by monitoring for metabolism. The positive results obtained (Levin and Straat, 1976a, 1976b) are consistent with biology but have been challenged by alternate hypotheses that include a variety of nonbiological active agents and by doubts that putative Martian organisms could exist in the harsh environmental conditions. The Viking LR experiment (Levin, 1972; Levin and Straat, 1976a, 1976b) was one of three life-detection metabolic tests on the 1976 Viking mission to Mars. The question is whether the positive results of this experiment detected extant life or some chemical agent in the regolith. The experiment was designed to look for metabolism whereby one or more simple organic compounds are consumed and one or more carbon-based gases are evolved. The other two life-detection experiments were the Gas Exchange (GEx) experiment (Oyama, 1972; Klein et al., 1976; Oyama and Berdahl, 1977), which tested for microbial life exposed first to humidity only, then to water, and then to immersion in a complex 'chicken soup' of organic nutrients and supplements, and the Pyrolytic Release (PR) experiment (Horowitz et al., 1972, 1977; Klein et al., 1976), which was designed to test for microorganisms that photosynthetically incorporated $^{14}\text{CO}_2$ and or ^{14}CO in a simulated Martian atmosphere and environment with and without the addition of water. A fourth Viking experiment, the Gas Chromatograph–Mass Spectrometer (GCMS), was included to analyze organics expected to be widely present on the surface of Mars (Biemann et al., 1977). While not a life-detection experiment per se, it was believed that, if life existed on the planet, organics would be detected by the GCMS and serve as confirmation of life."

— Gilbert Levin (2016), 'The Case for Extant Life on Mars'

The details these four experiments and fifteen citations discussing the results of these experiments, need not necessarily concern us. The point to keep in mind is that the effort that went into theorizing, devising, and conducting experiments, led three different people, namely: Dowling (1998), Brooks (2005), and Jabr (2013), into the abioism or life does not exist conclusions, and one person, namely: Lovelock (1975) into the geo-bioism conclusions.

To get a visual idea of what sort of Martian soil the ^{14}C -labeled organics, in the Leven Labeled Release (LR) experiment, were injected into, the following image shows an actual up-close color photo of the red sandy surface of Mars, taken by the rover Curiosity in 2014 after it had just crossed the 'Dingo Gap' sand dune.

Mars, being the fourth planetary orbit away from the sun, is cold planet, with an average temperature of 80°F . The planet has carbon dioxide snow. During certain hours, relative humidity can be measured as equivalent of the drier parts of the Atacama Desert in Chile. NASA in the end, Leven aside, concurred that there is no life on Mars.



16.3 | Dowling abioism rule

Three people were led to abioism position, following thoughts on what exactly life is, in the context of the extra-terrestrial definitional sense of the matter. Namely: Jonathan Dowling (1998), debating about extraterrestrial life while working at NASA, Michael Brooks (2008), thinking about the Leven Labeled Release (LR) soil experiment, and Jiri Benovsky (2017), following thoughts on Captain Kirk, in Star Trek, facing for the first time the Dikironium cloud creature or the Beta XII-A entity,

In this group, Dowling, of coincidence, was ‘born’ or came into existence in the year 1955, the zero year of the new Anno Elementum (AE) dating system. Dowling also ceased to exist in 2020, the 65th year of the new AE dating system, which of second coincidence, was the year of invention of the Anno Elementum dating system. Said another way, Dowling was synthesized by the universe the year that atoms were first seen and he was analyzed by the universe the year of the invention of the atoms-first-seen calendar dating system, and he formerly published his abioism views, by stating that ‘there is no such thing as life’ two year before the coining of abioism (Thims, 2015), in his book *Schrodinger’s Killer App* (2013).

In 1998, Dowling, 43-years later, while working at NASA on space research, in respect to sending probes to Mars, began to engage into debates about extraterrestrial ‘life’, in regards to how to define life on other planets and also how to detect extraterrestrial life or signs of extraterrestrial life? Dowling worked at NASA until 2004, when he was aged 49. Dowling, of note, does not tell us when exactly these debates actuated, and on what day exactly he voiced his opinion that Martian ‘life’ does not exist, nor does Earth ‘life’ exist, nor life exist anywhere in the universe, as he did not publish a note about this until 2013, but we can approximate that this occurred when he was about age 45 or five decades educated, if we round up.

Thus, we can take it as a general universal rule, aka the ‘Dowling rule’, in respect to any type of extraterrestrial chemical intelligence, or intelligent thing with ‘faculty of reaction’ (Lubicz, 1949), that five decades after any chemical species in the universe first sees elements or atoms, that it takes approximately five more decades or so to realizes that it is not ‘alive’, or whatever word the alien uses to define its state of powered animate existence, and that this ‘Dowling point’ marks the start of enlightenment for the species. Hence, our previous search for ‘extraterrestrial life’ is a search for post Dowling point species, correctly speaking.

We also note that the year of the invention (2020AD) of the new BE/AE dating system falls on the 250th anniversary of the publication of Holbach’s *System of Nature* (1770). Holbach’s Paris mansion, the so-called Holbach, is said to have been where the first extraterrestrial debates took place:

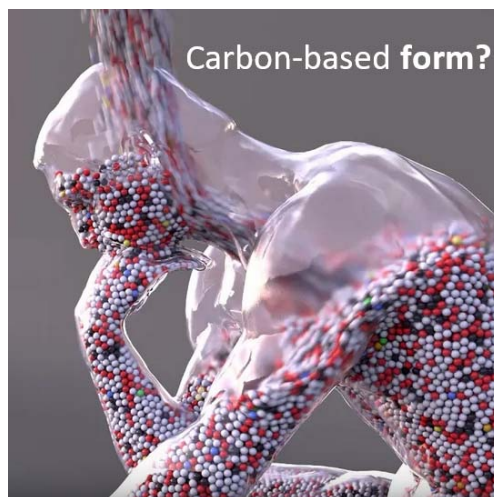
“Among the most enthusiastic supporters of the Encyclopedia, and moreover the author of hundreds of its articles, was Baron Holbach, whose Paris salon served as a gathering point for many of the philosophers. During more than two decades, as Diderot and others dined in the coterie holbachique, the conversation certainly centered on numerous occasions on religion and, one may conjecture, turned at times to the topic of **extraterrestrials**. Holbach, so hostile to religion that he relished referring to himself as a ‘personal enemy of god’, directed from his estates an unrelenting attack on all forms of theism by encouraging others to write against religion and by composing numerous tracts himself. Not only did this affable atheist suggest the 1768 translation of Lucretius *On the Nature of Things*, made by his children’s tutor, he also personally penned the ‘bible of atheism’, his anonymous *System of Nature* (1770), which presents the universe as a system of matter in constant motion, and mind as nothing more than a complex of atoms.”

— Michael Crowe (2012), *The Extraterrestrial Life Debate*

Moreover, Diderot’s 1769 conjectures about ‘living points’, a noted historical precursor to abioism, derived in part of the Holbach salon discussions.

16.4 | Alternative life forms?

In 1934, Harold Blum, in his chemical peneplanation theory, discussed the possibility of ammonia NH₃ based life, as compared to water H₂O based life. In 1954, John Haldane, at a symposium on life’s origin, speculated about as ammonia-based life or ammonia biochemistry, instead of the typically believed water-based life form states of existences. Others have made reference to the possibility of ‘silicon life’ existing somewhere in the universe. The following is a basic list the top conjectural alternative ‘life forms’:¹



1. Ammonia-based life
2. Arsenic-based life
3. Nitrogen-based life
4. Boron-based life
5. Phosphorus-based life
6. Silicon-based life

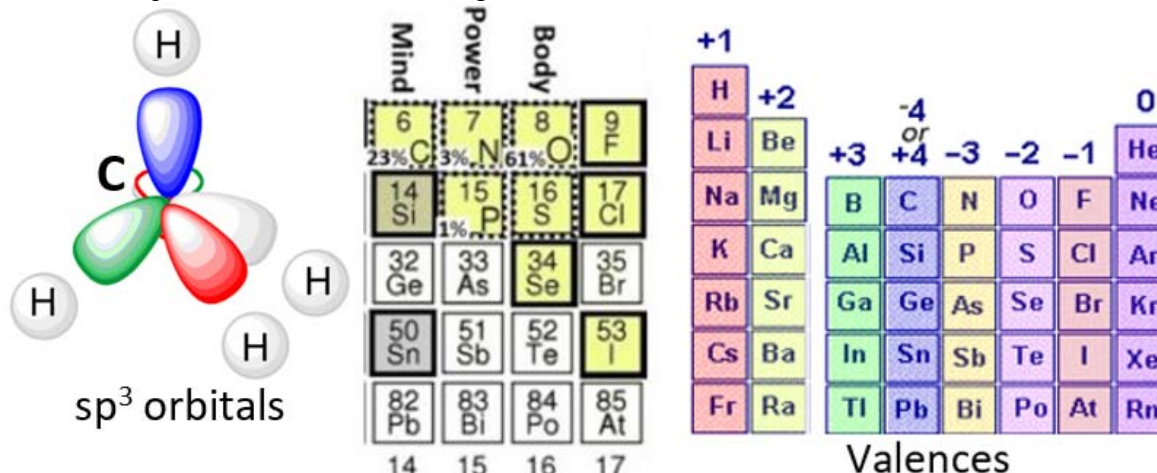
Of note, the list of so-called hypothetical biochemistries seems to be growing at certain pace, as either science fiction tropes or science theorized about ‘life forms’ potentially existing in the universe.²

What we see here is a progressive attempt to *anthropomorphize* the elements and the entire period table by projecting the idea of life into all the elements. It is what Goethe (*Elective Affinities*, 1809) referred to as the Narcissistic way of looking at chemistry and the universe. Goethe specifically referred to this as the ‘Ott and Tot cypher’.

We are born blind, in thinking like this, Goethe tells us, similar to Ottilia of Alsace, who was born blind at birth, but had her vision restored at age 12, and that only by reversing our thinking, will we, like Ottilia, be able to see and think about the universe correctly.⁴

16.5 | Column 14 elements = mind

Here, in respect to so-called ‘intelligent ET forms’, we note that the ‘mind’ section, or ‘faculty of reaction’ location of the periodic table, is found among the column 14 elements:



The reason is that column 14 elements, e.g. hydro-carbon brains in humans or silicon or germanium CPUs in computers, have a distinct proton-electron geometry in their valence shell of electrons, that permits for light-mediated change in the geometry of its orbitals, and hence what we refer to as ‘thinking’. In other words, all things formerly classified as ‘alive’, say bacteria, plants, animals, and humans, are each CHNOPS+#E species, that have a column 14 reaction faculty.

Synopsis: Solar-powered column 14 based animations on this planet or any other planet in the universe are not ‘life’, but rather only extra-terrestrial powered CHNOPS+ animation, or possibly some other periodic table type of moving animation.

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(b) <https://eoht.info/page/Tot>
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17. Bioethics, Bio-whatever, and other 282-isms

“Bioethics really is a **gross load of nonsense**. Safety, of course, and if you are doing experiments on animals, you must try not to let them suffer too much pain. If you are doing experiments on people, you have to tell them what you are actually doing. But I think the bioethical issues related to the early human embryo and to cloning simply have no foundation whatsoever.”

— Lewis Wolpert (2011), ‘The Nonsense of Bioethics’, Web of Stories, Jun 15

Chapter point: Touch on bioethics and BioNumbers and point out that there remain many other 282-based words in need of correction, in terminology and conceptual understanding [length: 3-pgs]

The term ‘bio’ is a magic word. When, subsequently, magical term becomes affixed to *ethics* and employed as a justification for presumed to be immoral atrocity or act, then one becomes platformed on the stage of a magician, albeit unknowingly. A *bioethical* argument, in short, is equivalent, in a real sense, in saying that one’s moral system or fabric is based on ‘abracadabra-ism ethics’!

Now, to clarify, what we are not arguing here is that because *bio* does not exist, which it does not, that by repercussion what was formerly referred to as the ‘ethics’, or the ethos of a society or person, related to the *bio* also does not exist, or that morality in general does not exist in the universe.¹ To put this into context, the frequently cited Bateson so-called ‘kick a dog vs kick a stone’ physics model is a good point of reference:²

“When I **kick a stone**, I give energy to the stone, and it moves with that energy; and when I **kick a dog**, it is true that my kick has a partly Newtonian effect. If it is hard enough, my kick might put the dog into Newtonian orbit, but that is not the essence of the matter. When I kick a dog, it responds with energy got from metabolism. In the ‘control’ of action by information, the energy is already available in the respondent, in the advance of the impact of the events.”

— Gregory Bateson (1979), *Mind and Nature* (pg. 101)

The stone here is not what we would not formerly call a ‘bio’, whereas the dog is. Most will argue that it is immoral or unethical to kick a dog, whereas questions of ethics do not come into play when we say kick a stone along the ground. Most, in the same vein, will say that some among of discipline, e.g. hitting or slapping a dog is needed, to train a dog to be house-trained in respect to urination and defecation habits.

Secondly, to clarify, it is not the intention of this book to broach the firestorm of what historically have been classified as bioethical debates, but only to suggest that fundamental scientifically correct language, based on universal principles, needs to be employed by those who like to engage in these types of arenas.

The famous incident of Peter Singer’s 1999 appointment to Princeton University’s professorship of Bioethics, wherein on his first day of class some 250 wheelchair bound people showed up to protest and block the entrance to the university, holding signs such as ‘we’re not dead yet’, during the course of which there were some 14 arrests, is a noted example of where heat quickly arises when ethical arguments involves or impinge into the working existences of real people.

We can also refer to Warren Reich’s 5-volume 1978 *Encyclopedia of Bioethics*, which contains 315 signed articles covering ethical and legal problems, basic concepts and principles, ethical theories, religious traditions, historical perspectives, and disciplines bearing on ‘bioethics’, which was said to have launched the new field of ‘bioethics’.

Thirdly, we can read through the transcripts of the US Presidential Commission on Bioethics, originally formed in 1996 to advise the president on ethical issues largely related to stem cell research and things like cloning humans. Most of these discussions reduce to politically pressured arguments, many of which revolved around religious ideologies. To site one example, during 2014 meetings, scientists including Joshua Greene and Alfred Mele, and university presidents, including Jim Wagner, president of Emory University, and Amy Gutmann, president of Pennsylvania University and Chair of the President’s Bioethical Commission, discussed whether or not ‘angels’ exist and whether or not humans are driven around in their orbits, i.e. ‘animated’ in motion, in their so-labeled ethical or non-ethical behaviors, by ‘souls’.

This type of erudite tax-funded discourse, naturally, was reported to President Obama, and used to help steer American in its ethical dilemmas, as they arose. Here, we see what many people think is bio and ethical is in some way connected to the soul. Hence, abioism and asoulism are closely connected topics. Therein, we are not directly focusing our discussion on asoulism or generally atheism for that matter. If a person wants to believe in god and souls, that is their prerogative. Our concern herein, is that it is no longer permissible to speak scientifically about 'bio', using the language of hard science, namely: physics, chemistry, and thermodynamics.

As we see, what was formerly called 'bioethics' covers a large swath of topics, most of which soaked in foundationless arguments, and religious ideology. To correctly upgrade all of this, however, requires a large effort. What is ethical in nature and society, as Goethe famously said, is a principle found in the symbols of physical chemistry. To give the reader a taste of this Goethean ethical conjecture, we will direct the reader to the online 'flower stealing article', which was used by the author in 2015, in his 'Atheism for Kids Class' to teach children in person, right from wrong, according to the laws of the universe, as we currently understand things. This gist of this logic, barring prolonged digression, are the following two takeaway points:³

Bioethical → Exergonic

Un-bioethical → Endergonic

These two basic rules, however, become quickly confused and complicated, per reason that it has been found, in physiological processes, that exergonic things, acts, or processes, are coupled to endergonic things, acts, or processes.

The textbook on *human chemical thermodynamics*, however, needs to be completed, before this new system of chemical thermodynamics based ethics can be explained in more detail. In the meantime, the reader is encouraged to watch the 14-part YouTube 'Atheism for Kids' playlist, to get the general idea, as explained in simple terms to children.



17.1 | BioNumbers: Human molecular formula

In 2015, Harvard Medical School's so-called BioNumbers website, URL: BIONumbers.hms.harvard.edu, whose search engine entry box is shown adjacent, described as a database of 'useful biological numbers', began listing Thims 2002 to 2007 calculation of the 26-element molecular formula for a human, both empirical and molecular. The molecular version is shown adjacent.

The original 2002 derivation of the human molecular formula by Thims was the result of a needed key component to the 'What Happens When You Die?' chapter, of Thims drafting manuscript *Human Thermodynamics*, in respect to the laws of thermodynamics, the first law in particular. It was not

until 2009, that Thims realized that 'die' and 'bio' are not part of the recognized repertoire of chemistry and physics, chemical thermodynamics in particular. The only comment we can make at this point, is that when, in the future, Harvard.edu, the 'most prestigious website in the world', so said the Winklevoss brothers (2003), stops referring to useful medical school numbers, as being 'solar magic square' based, we will have taken a step forward, intellectually.

Organism	Human <i>Homo sapiens</i>
Primary Source	Thims published his results in the 2002 manuscript <i>Human Thermodynamics</i> (Volume One), in the 2005 IoHT (online) <i>Molecular Evolution Table</i> , and in the 2007 textbook <i>Human Chemistry</i> (Volume One). For an average 70-kg human being, this empirical formula translates to the following human molecular formula:
Method	H E27 O E27 C E27 N E26 P E25 Ca E25 K E24 S E24 Na E24 Cl E24 Mg E24 Fe E23 F E23 Zn E22 Si E22 Cu E21 B E21 Cr E20 Mn E20 Ni E20 Se E20 Sn E20 I E20 Mo E19 Co E19 V E18

17.2 | Other 282-isms

In the previous chapters, we have attempt to cover the main bio-based terms and bio-isms, i.e. 282-isms, as best we could, in short format. There are, no doubt, endless other 282-isms, that we could focus on, such as bio-degradable, a popular new term in the container industry, bio-politics, e.g. as employed in the theories of Giorgio Agamben, astro-biology (aka exobiology), which is heavily-funded by NASA, or biophysical economics, a conference the author presented at, among other. In fact, it is a general rule in modern science, that if you can attach the term *bio* to your research program, you will get more funding, private funding, university funding, or government funding. This, however, is no different than the amount of money people are willing to spend to see a magician wondrously pull a rabbit out of a hat or David Copperfield seemingly make a plane disappear. The point is that rather than wasting time and mental efforts attempting to clean other 282-isms, the mind should focus, instead, on restructuring the discussion, whatever the discussion may be, using universal language based on first principles.

Synopsis: Many 282-words, terms, concepts, and 282-based belief systems exist and are in need of fixing.

References

1. Note: the word 'moral' derives from Mor, the Roman god of death. This term also, accordingly, is in need of terminology reform, but that is not the focus of this book.
2. <https://eoht.info/page/Rock+vs+human>
3. <https://eoht.info/page/Flower%20stealing%20model>

18. Die-whatever

“Most people ‘**die**’ at 25 and aren’t buried until they’re 75.”
— Benjamin Franklin (c.1745), *Publication*

Chapter point: an attempt to give a synopsis of ‘death terminology reform’ and touch on the predicted future *equation of continuity* (Maxwell, 1878). [length: 8-pgs]

While the bulk of this book centered on an effort to explain and justify why *bio*, ‘life’, or *alive* does not exist, we have but scarcely touched on why, in an exactly parallel fashion, *death*, ‘die’, or *dead* or so-called ‘morto’ does not do not exist. It would seem, accordingly, to behoove us to touch on this quixotic topic, which seems to be more complex than abioism, at least in passing?

18.1 | Dead lift

In 1638, Galileo, in the ‘sixth day’ of his *Discourses and Mathematical Demonstrations Relating to Two New Sciences*, was distinguishing between the force of a moving body and that of a ‘dead weight’ or a ‘peso morto’, as he called it in Latin. In translation, we have:

- Peso = ‘weight’
- Morto = ‘dead’

In modern Portuguese, this translates into the English term ‘dead lift’, the popular power lifting exercise, as shown adjacent, wherein a bar loaded with weights is lifted off the ground.



Etymologically, Morto comes from the Mor, the Greco-Roman ‘death god’, thought to have carried off bodies from the battlefield after a person was slayed in battle and their bodies stopped moving. Eventually, Galileo’s *peso morto* term, in 1673, became Gottfried Leibniz’s *vis mortua* term, which in 1853 was renamed into ‘potential energy’ by William Rankine.

Now, barring prolonged digression into the actually physics that Galileo and Leibniz were attempting to quantify, no one presently believes that when the weightlifter, shown adjacent, lifts the bar off the ground, that, in the process, the bar transforms from a *dead bar* or ‘dead weight’ into a living weight or an *alive bar*! This is but one example of why so-called ‘death terminology reform’. Similarly, no one actually believes that when a hydrogen atom reaches its ‘half-life’ that one or more hydrogen atoms as actually ‘died’, in a technical sense.

“There is **no thing ‘dead’ in the world**, and dying implies only a retransformation to the material of common life.”

— Karl Heinzen (1846), *Six Letters to a Pious Man* (pg. 14)

In other words, we need to better understand, technically speaking, what happens to a human, like hydrogen, when they transform out of existence, as a former bound state. Certainly, to clarify, gym users abandon the term ‘dead lift’, as this is almost like a bragging right among men, and will likely continue as a popular term, colloquially used, for centuries to come. This, however, is akin to the atrophy of the phrase ‘sunset’, a term formerly believed to be ‘sun [Horus] is with Set’ in battle.

18.2 | Particle and forces view

To review, Leucippus, the atoms and void theorist, and Empedocles, the four elements and two forces theorist, each respectively, as we have touched on, explained that, from the point of view of atoms or elements and forces, ‘death’ does not exist:

“Birth is the aggregation of atoms, **death is their disaggregation** or destruction of atomic composite, without anything being derived from nothing and nothing going into anything in the process.”

— Leucippus (c.460BC), attributed

“**There is neither birth nor death** for any mortal, but only a combination and separation of that which was combined, and this is what amongst laymen they call ‘birth’ and ‘death’. Only infants or short-

sighted persons imagine any thing is ‘born’ which did not exist before, or that any thing can ‘die’ or parish totally.”

— Empedocles (c.445BC), Fragment I21 / DK8 + Fragment I23 / DK11

This is a great level of discernment. When hydrogen and carbon react to form methane CH_3 , there is no ‘life’ involved, only changes in formation energy, Gibbs energy in particular. Likewise, when CH_3 becomes something else, there in a similar fashion, no ‘death’ involved. This very same logic scales up to the level of human formations, only we are more ignorant about the details. This what Leucippus and Empedocles are saying above.

Then Epicurus, in his atomic philosophy, famously spoke about death as thing that sort of doesn’t exist, in a roundabout way; or rather is a thing that only exists when he does not exist:

“Death only exists when I do not.”

— Empedocles (c.300)

More recent views include:

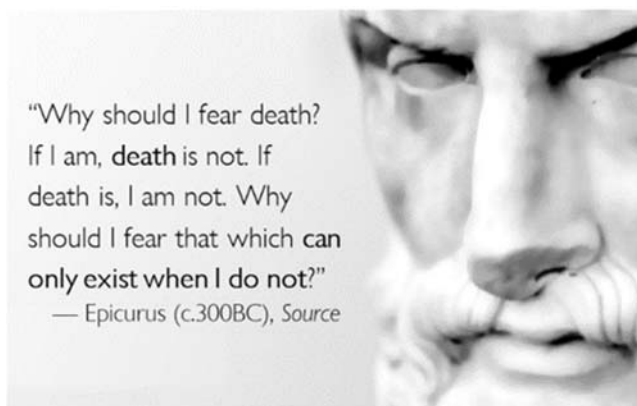
“I’m prepared to leave this life. I have no fear. I’ll just **disintegrate** into molecules and atoms. They’ll be probably **transformed** into another form of living matter.”

— Vladimir Vernadsky (1945), “Diary Note”, written shortly before his dereaction (death) on Jan 6

“The body is a fortuitous concourse of atoms.

There is no death for the body, only an exchange of atoms. Their changing places and taking different forms is what we call ‘death.’ It’s a process which restores the energy level in nature that has gone down. **In reality, nothing is born and nothing is dead.**”

— Uppaluri Krishnamurti (c.1970), *Source*



Here we see more sharp and advanced intellects at work. An entire treatise needs to be written just to further elaborate on what the above authors are digging at, as per *atheistic energy* defines the situation.

18.3 | Die terminology reform

The following statement, by Lin Yutang, a modern atheism-inclining Chinese philosopher, knowledgeable about western philosophy, eastern philosophy, and chemistry, from his *The Importance of Living*, will help us better understand the pressing need for *die terminology reform*:

“Many of the finest minds of today have expressed their disbelief in personal immortality and are quite unconcerned about it — Herbert Wells, Albert Einstein, Arthur Keith and a host of others — but I do not think it requires first-class minds to conquer this fear of **death**. Many people have substituted for this personal immortality, immortality of other kinds, much more convincing — the immortality of the race, and the immortality of work and influence. It is sufficient that when we **die**, the **work we leave behind us continues** to influence others and play a part, however small, in the life of the community in which we live. We can pluck the flower and throw its petals to the ground, and yet its subtle fragrance remains in the air. It is a better, more reasonable and more unselfish kind of immortality. In this very real sense, we may say that Louis Pasteur, Luther Burbank, and Thomas Edison are still living among us. What if their bodies are dead, since ‘body’ is nothing but an abstract generalization for a constantly changing combination of chemical constituents! Man begins to see his own life as a drop in an ever flowing river and is glad to contribute his part to the great stream of life. If he were only a little less selfish, he should be quite contented with that!”

— Lin Yutang (1937), *The Importance of Living* (pgs. 399-400)

Yutang, in §1.2: Pseudo-Scientific Formula, also defined people of different nations as different types of so-called ‘pseudo-chemicals’, as follows:

English= $R_3D_2H_2S$

French= $R_2D_3H_3S_3$

American= $R_3D_3H_2S_2$

German= $R_3D_4HS_2$

Russian= R_2D_4HS

Japanese= R_2D_3HS

Chinese= $R_4DH_3S_3$

Where ‘R’ stands for sense of reality (or realism), ‘D’ for dreams (or idealism), ‘H’ for a sense of humor, and — adding one important ingredient — ‘S’ for sensitivity; and ‘4’ stand for abnormally high, ‘3’ stand for high, ‘2’ for fair, and ‘1’ for low. On this model, Yutang says that we need new words to say what we want to say about people chemically speaking:

“Human beings and communities behave then differently according to their different compositions, as sulphates and sulphides or carbon monoxide and carbon dioxide behave differently from one another. For me, the interesting thing always is to watch how human communities or nations behave differently under identical conditions. As we cannot **invent words** like ‘humoride’ and ‘humorate’ after the fashion of chemistry, we may put it thus: 3 grains of realism, 2 grains of dreams, 2 grains of humor and 1 grain of sensitivity make an Englishman.”

— Lin Yutang (1937), *The Importance of Living* (§1.2)

Hence, in respect to abioism, when Yutang says: ‘when we *die*, the *work* we leave behind continues’, work is a real measurable quantity, defined exactly according to the first law of thermodynamics, whereas die is not recognized, nor real, or measurable.

Certainly, one would think, we should be able to say more than six words about our total existence, in boiled down meaning, when our personhood no longer exists in a hydro-carbon structure?

A salient issue, as Yutang digs at, in the new abioism progressiveness view of things, is that trying to find upgraded or newer physio-chemically neutral terms to replace the obsolete and defunct terms: dead, death, die terms, which do not apply to ‘atoms, molecules, and energy levels’, is a difficult problem, and a new area of future research. An *energy level*, e.g., cannot die. A physio-chemical transformation has nothing bio nor *unbio* associated with it. This ‘die terminology reform’ problem, which Thims has grappled with for some time, is not as easy to solve, as compared to bio-term reform.

Presumably, what these authors are digging at, is that what we presently consider to be the working force of our mind, which brings keeps us, in our waking hours, in a state of awareness, is some sort of physico-chemical function, structurally defined by what Maxwell refers to as ‘work done by waves in ether, continuously running’? As to what this is, will we not attempt to conjecture at this point, but rather focus our efforts on the development of PCN path terminology to employ, as working tools of discussion, in daily talk and writings, in the meantime.

How “stars” die?

r/Jokes · Posted by u/SeasonalGnat 1 year ago 📅 2019

My son (who is into astronomy) asked me “How do stars die?”

Being the intellectual I am I replied “Usually through an overdose”

2.0k points · 57 comments

18.4 | Thompson-Fergus atheistic energy philosophy

To go through a real-time working example of how it is difficult for an atheist, who is working to expunge their mind from mythology and religious beliefs, to find a new term to replace the word ‘die’, we will touch on the case of Patrick Fergus, an American atheism philosopher. Fergus, or Pat or ‘King Atheist’, as he was known to friends, pre reason that atheism, religion, and philosophy was all he liked to talk about, was a good friend of Thims in Chicago.

In early 2014, Thims, explained to Fergus that ‘life’ does not exist, and that this was a religious belief. Upon hearing this explanation, Fergus replied, laughingly:

“Good lookin’ out Libb!”

— Pat Fergus (2014), laughing response to learning about abioism

The philosopher Fergus admired most was Hunger Thompson, author of *Fear and Loathing in Las Vegas*. The following is a typical example of Thompson's view of things:

“All **energy flows** according to the whims of the great magnet. What a fool I was to defy him.”

— Hunter Thompson (1971), *Fear and Loathing in Las Vegas*

On 20 Apr 2014, Easter Sunday, Thims asked Fergus what, as an atheist, he believes in? The following was his response:

“**Energy**. You have sex, there's friction ... that's heat. Then a baby shoots out. It's all energy. The sun's a giant orgasm. Like if you see a hot girl ... and she's soo hot, you can't even touch that shit. You're like daaammn!”

— Pat Fergus (2014), ‘On what, as an atheist, he believes in?’, Apr 20

Fergus, in short, say that he believes in energy. Moreover, presumably, like Thompson, he believes that energy flows through the universe according to the whims of some kind of great attractor or magnet. Also that humans come from sex, friction, and heat. The sun is a giant orgasm, where hydrogen atoms are having some kind of grand orgy to form helium atoms. Lastly, when he, as an atheist, ceases to exist, his energy, being, or whatever defined him, will flow towards the magnet, or something along these lines, baring exact scientific description.

In Oct 2014, Fergus and Thims together launched the *Atheism Reviews* YouTube channel. Over the course the next three months, Fergus and Pat, along with an assortment of invited guests, made eight videos.

In late Dec 2014, Fergus and Thims, in their video ‘Pointless to Talk to Atheists’, which had guests: ‘Big Pun’ and ‘Art the god-believer’ present in the audience, reviewed a video of Christian, shown on the TV screen below, who starts talking about ‘good and evil’. At this point, Thims paused the camera, and ask Pat ‘do you believe in evil?’. The following was his response:

“Yeah, absolutely. Human nature's evil. If we're alive we **die**, [if] we're not [we don't]. Look we're all going to the same place, to pass along to a great big ball of heaping fire.”

— Patrick Fergus (2014),
‘Pointless to Talk to Atheists?’
(10:18-11:15), Dec 30¹

This response, to clarify, is a little bit jumbled, but, as we were all is pretty drunk, at this point, being about 2AM in the morning, it's not such a bad response, having just learned abioism.

Fergus, to elaborate on his response, with regard to his view that we are all going to ‘pass along to a great big ball of fire’, was a Hunter Thompson philosophy advocate.

Notice, in all these quotes, that life and death are not employed. We can explain existence entirely in terms such as: energy, flow, heat, friction, magnet force, and what not. We also note that in his quote, Fergus says that IF we are alive, then we ‘die’. But, he also say, that if we are NOT alive, then ‘we're not [term missing]’. In other words, the mind of Fergus is trying to process the new atheist abioism view, but the words to replace the defunct terms, such as die or death, have not yet been invented, hence his mouth is unable to articulate what he wants or is trying to say.

In this direction, we will also note that John Tyndall, in his 1874 ‘Atheistic Materialism’ BAAS address, grappled with the same problem, of not having the correct words to say or solve the ‘dead atoms’ problem, as he called it. Yet, at the close of this talk, Tyndall quotes Goethe:

“Fill thy heart with it, and then **name it as thou wilt**.”

— Johann Goethe (1821), *God and the World*

In other words, the words needed to replace the defunct die, dead, or death terms, will eventually arise in the future, when the feeling, expression, or need for the new word, grows so much so that it fills someone's heart, to a large degree, and thereafter the name will appear.

In the Abioism Glossary table, we note that there are about 16+ die-word term-neutral alternatives, e.g. cease to exist, become analyzed, dis-integrate, and deboundstate or destate. None of these, however, has successfully filled the void? Presumably, according to Tyndall and Goethe, the name will appear in the future, that will be applicable to the end states of stars, carbon atoms, and humans equally, without invoking mythology.



To exemplify, if we go to the *half-life* article of Wikipedia, we do not find the terms: die, death, or dead, being employed. If we go the *life* article of Wikipedia, which is the nearest equivalent, we find the terms die and dead used once, and the term death employed nine-times. In other words there is a terminological disjunct between the way we describe carbon atoms and the way we describe humans, even though both are comprised of carbon atoms, which are not alive.

On 13 Jan 2015, Thims, in response to Hemant Mehta's video: 'What do Atheists Believe Happens When we Die?', did a 4:10-min video, with focus on the term 'die', in respect to terminology reform.² In this video, Thims compares himself to a remote controlled helicopter, that flies around the room while he talks on camera, explaining that his movement is no different than the movement of the helicopter, whose movements at that point were being controlled by 'Art the god-believer'.

On 21 Jan 2015, Fergus, less than three weeks after saying 'If we're alive we **die**, [if] we're not [we don't]' on camera in Chicago, at the age of 29 (or the start of this 30th birthday), while on vacation in Cambodia, took his own existence, by drinking himself to *death*, as the news reports indicated:

"Patrick Charles Fergus AKA King Atheist dies in Cambodia while on vacation in Thailand. Sihanoukville, Cambodia: an American tourist died in his room at GBT guest house in Sihanoukville. His corpse had been seen around 11:10 in the morning on 22 January 2015. Police said, the foreigner that **died** in room number 111 at GBT guest house name Fergus, Patrick Charles, male, 30 years old, American holding passport number 028864545. He entered Cambodia as a tourist. He stayed at this guest house since 21 Jan 2015 and died on 22 Jan 2015 in the early morning. According to the doctor who had checked the **dead** body, he died from heart attack because, he drank **too much alcohol**."

— Cambodia News (2015), 'Pat Fergus Dies in Sihanoukville, Cambodia', Jan 22, Thu⁴



Fergus, prior to this cessation event, to keep everyone in the loop, had severe breathing problems, so much so that he had been hospitalized several times from not being able to sleep for up to eleven days, and was no longer able to function on his own, and had to call his father to come get him in New Orleans, where had been working. After that he had to wear a neck brace to sleep, or had to sleep vertically, e.g. on a toilet when he stated at Thims' place after large parties.

Prior to going on this trip, he told everyone that he wasn't taking his neck brace with him. The night before he left, at Thims house, after filming a video, he made Thims and Art the god believer watch the film *Full Metal Jacket*. A week before this Fergus had said to Thims, while passing each other one day, that Fernando, another mutual acquaintance of ours, told him that he thought he probably wasn't coming back from this vacation, as Fergus took many global vacations per year. Upon hearing this, Thims gave Fergus a high-five, saying that's awesome, or something along these lines!

We go into detail here because we are concerned about terminology, as regards abioist atheists see the universe. Fergus, as we have said, believed in energy and heat. Energy and heat can not be 'dead' or have 'died' as the news obituary report on Fergus describes things, using abioistic defunct language.

If 'life', or the *vita* given top people by the vis of Venus, is now redefined as an 'energy state', maintained by the electromagnetic force of Maxwell, then we are in need of terminology reform and yet-to-be invented words to correctly describe what happened to Fergus and others in his situation.

If, e.g., his neck brace, was his 'life-support' device, which kept him alive, and if *life* has been redefined as an *energy state* maintained or driven by a *force*, work done by waves in ether, as Maxwell phrase things, then how do we rename a *device* that supports a force? This gets into what is called energy coupling, and how sometimes, and when a large amount of energy is being absorbed to keep a life-going, then it becomes an unnatural state of existence, at which point the forces of the system, determine to the mind, that the termination of one's existence, becomes a beautiful thing, which Fergus might be envisioning as he looks into the sun, in the above photo, 'happy' drinking a beer with his friend, on a beach, in Cambodia! The photographer of the above beach photo, Kevin Matthew, Fergus' travelling friend, remembers him 'turning around with the biggest simile on his face!'

18.5 | Eulogy of a Physicist

How modern-day secular, agnostic, atheistic, and science-minded people think about ‘death’, is somewhat newer, untouched, and scientifically-undiscussed, in a rigorous sense, subject. In other words, while scientists are more than happy to theorize and talk about things such as ‘heat death’ (of the universe), how stars ‘die’, the death of a black hole, or half-lives of carbon atoms, etc., when it comes to hard scientific talk on the so-called *death* of humans, serious discussion is wanting. The previous century has only seen new-age publications, teetering on nonsense, based on false-science, mixed with quasi-religious mysticism.

In 2005, Aaron Freeman, an American physicist, writer, and standup comedian, to give a rare glimpse of an honest real-science look at the problem, gave a famous NPR talk entitled ‘Eulogy from a Physicist’. While Freeman’s talk is not full physico-chemically neutral, in respect to every term he uses, it is nevertheless a good introduction to the way an atheistic-inclining physicist explains what we have formerly called death:



“You want a physicist to speak at your funeral. You want the physicist to talk to your grieving family about the **conservation of energy**, so they will understand that your **energy has not died**. You want the physicist to remind your sobbing mother about the **first law of thermodynamics**; that no energy gets created in the universe, and none is destroyed. You want your mother to know that all your energy, every vibration, every Btu of heat, every wave of every particle that was her beloved child remains with her in this world. You want the physicist to tell your weeping father that amid energies of the cosmos, you gave as good as you got.

And at one point you'd hope that the physicist would step down from the pulpit and walk to your brokenhearted spouse there in the pew and tell him that all the photons that ever bounced off your face, all the particles whose paths were interrupted by your smile, by the touch of your hair, hundreds of trillions of particles, have raced off like children, their ways forever changed by you. And as your widow rocks in the arms of a loving family, may the physicist let her know that all the photons that bounced from you were gathered in the particle detectors that are her eyes, that those photons created within her constellations of electromagnetically charged neurons whose energy will go on forever.

And the physicist will remind the congregation of how much of all our energy is given off as heat. There may be a few fanning themselves with their programs as he says it. And he will tell them that the warmth that flowed through you in life is still here, still part of all that we are, even as we who mourn continue the heat of our own lives.

And you'll want the physicist to explain to those who loved you that they need not have faith; indeed, they should not have faith. Let them know that they can measure, that scientists have measured precisely the conservation of energy and found it accurate, verifiable and consistent across space and time. You can hope your family will examine the evidence and satisfy themselves that the science is sound and that they'll be comforted to know your energy's still around. According to the law of the conservation of energy, not a bit of you is gone; you're just less orderly. Amen.”

The inquisitive reader can go online and read three other atheist eulogies, including one by Robert Ingersoll (1882), one by free thinker Ben Lindsey (1926) at the wake of Luther Burbank, and one by Thims at the midnight firepit toast to Fergus, the week after we learned of his sudden demise (suicide).⁵

Here, again, our concern is not with the rightness or wrongness of one taking their own ‘life’, or alternatively, others forcefully keeping someone ‘alive’, e.g. using artificial *life*-support means, but rather with correct terminology and terminology reform. In other words, when Ben Franklin says ‘most people *die*

The first equation is some form of the Schrodinger equation. The second equation is the Dirac equation. The third is the Schwarzschild's radius. The fourth has something to do with the Higgs field. The fifth is Einstein's field equation for general relativity. The sixth is said to be a Lagrangian of quantum dynamics or a quantum entanglement state, as some Internet sleuths have decoded.⁷ Kojima also has some sort of design blackboard for his video game, with the four Maxwell field equations for the electromagnetic force written.

The equations on these dog tags, however, to note, are fictional grasps at what continuity-like life/death equations might be like, in the neighborhood of, in the world of fantasy video games. Finding the real non-fictional continuity equations, however, might take another century or two or three? Presumably, the future equation will subsume Einstein's relativity equations and Maxwell's field equations and the first law of thermodynamics so to explain conservation not necessarily of 'mind' but the forces that work to move the actions of a person, therein making the mind, as these forces are conserved energetically, in the movements of the universe.

In 2019, Vadim Babenko, a Russian physicist turned science fiction writer, gave an interview on his novel *The Place of Quarantine*, cover image shown adjacent, where says the following:

"Our **destinies** may indeed be **interconnected**; not by any kind of a god but by some still **unknown laws** of physics."

— Vadim Babenko (2019), "Interview on novel"

Babenko's views, while admirable, are wrapped in quantum mechanical arguments. The derivation of this from fundamentals, however, is wanting, as it is rooted in the erroneous work of Max Planck, in respect to radiation and entropy. Nevertheless, Babenko gives us 'death equation' overlaid on a female form, which, he says, in the future, will explain death, not by a god, but by yet-to-be discovered laws of physics.

Death physics or cessation thermodynamics is a complex subject. We are speaking from experience. In 2004, a young female friend of Thims, named Susie, who was about age 18 or 19, lost her mother and her grandmother, who were murdered by her mother's boyfriend, in an attempt to get money by pulling an insurance scam. Thims, to try to help console his friend, drafted a 100-page manuscript entitled *Cessation Thermodynamics*, after reading through all the historical publications in this area, and tried to formulate continuity equations based on the first and second law of thermodynamics. The result, however, was less than satisfying. Hence, when we say that it might be a century or two from now before we make progress in the future science of continuity equations, this is what we mean.

Synopsis: Death and dead do not exist, so says Leucippus, Empedocles, Heinzen, and others. The future will see a so-called *equation of continuity* realized, so says Maxwell. Until that time, we must grow our minds, to the best language, and correlative belief creeds employable, as we are able to discern.

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19. Summary and Recapitulation

“I am made from the C-H-N-O-S-P combination from which a Bunsen, Helmholtz, Kirchhoff came.”
— Wilhelm Ostwald (1926), *Lifelines: an Autobiography* (*Lebenslinien. Eine Selbstbiographie*)

Chapter point: End by touching on the Johannes Wislicenus and Wilhelm Ostwald story, and how the simple matter of getting a Bible quote removed from a college chemistry classroom wall cost Ostwald his professorship. Getting *abioism* integrated into the modern colleges and getting the word *biology* removed from college classroom walls of the future will have a similar story, one not yet told. [length: 3-pgs]

We have now given a basic introduction to the new science, philosophy, or doctrine of *abioism*. This is the newly formed viewpoint that the former classification of nature into two divisions, namely into a ‘living nature’, or *lebende natur* (German), class of things, as contrasted with a ‘lifeless nature’, or *leblose natur* (German), class of things, divided per the then-confused reason that the former had ‘general physical forces’ that we could not explain, as compared the latter, which we could explain, is a false dichotomy. This was the state of things in 1797, as explained in German anatomist Theodore Roose’s *Outlines of the Theory of the Life Force*, wherein the term ‘biology’ was coined.¹ The new *abioism* view, conversely, holds that there is no thing as living nature as compared to lifeless nature, there is just *one nature* defined by one set of general physical forces.

The one-nature view of things, while correct, is not so easily absorbed and assimilate, specifically into the higher levels of the education system, as history has shown. The two-nature view of things has been the predominate model, for the last five-thousand years, and people hold tend to hold fast to traditional views.

19.1 | Wislicenus: That periodic table Bible quote must go! (1885)

In 1885, Johannes Wislicenus, aged 50, a German chemist and free thinker, to give some preliminary background, was appointed to the chair of the chemistry department of the University of Leipzig, so to take the place of the former chair Hermann Kolbe, chair holder from 1865 to 1884, who had passed away the year previous, at the age of 66.

Kolbe, formerly, as a youth of age 18, had been caught between his father’s desire for him to go into ministry and his own desire to study chemistry. This double pull, towards religion and chemistry, had bubbled over to the result that above the periodic table of chemistry lecture room, was Bible quote, specifically: ‘god has arranged all things by measure, number, and weight’.

On the day Wislicenus arrived to assume control of the chemistry department, his first directive was the statement:

“That must go!”

— Johannes Wislicenus (1885), ‘Comment upon seeing Kolbe’s bible quote above the periodic table’

In 1802, Wislicenus, himself, passed away, ceased to exist, terminated, dereacted, destated, de-bound-stated, went into the vacuum, disgregated, disintegrated, ceased to be, among other descriptions yet to be invented.

“God has arranged all things by measure, number, and weight.”

— Anon (c.200AD), *Bible* (§Wisdom of Solomon, 11:20)

Elemente			
Von D. Mendelejeff			
H = 1	Be = 9,4	Mg = 24	Ca = 40
B = 11	Al = 27,4	Si = 28	P = 31
C = 12	N = 14	O = 16	F = 19
N = 14	P = 31	S = 32	Cl = 35,5
O = 16	S = 32	Se = 78,4	Br = 80
F = 19	Cl = 35,5	K = 39	Rb = 85,4
Li = 7	Na = 23	Ca = 40	Sr = 87,6
		Sc = 45	Ti = 48
		Y = 88	Zr = 94
		La = 94	Ce = 140
		Th = 118	Pa = 231
			U = 238
			Nb = 94
			Mo = 96
			Rh = 104,4
			Pd = 106,6
			Ag = 108
			Cd = 112
			Sn = 118
			Sb = 122
			Te = 128
			J = 127
			Cs = 133
			Ba = 137
			Tl = 204
			Pb = 207

19.2 | Ostwald = CHNOPS combination

In 1905, Ostwald, who had been the leading professor of physical chemistry at Leipzig University since 1887, but who was also a strong and outspoken atheist, who believed that physical energy was behind everything, movement, reaction, and formation in the universe, began to come into serious conflict with the university, over ‘some religious questions’, as Edward Faber, in his book *Great Chemists* (1961) puts it. These conflicts arose during the time of the official obsequies for Wislicenus, the famous Bible quote removing free thinker, who kicked god out of the physical chemistry classroom. Shortly thereafter, Ostwald was relieved of his lecture duties, and officially suspended in 1906.

During this tensional period, he began working as an exchange professor in the United States, e.g. in 1905 he gave his famous ‘Affinity’ lecture at MIT, wherein he connected Goethe’s *Elective Affinities*, with the thermodynamics work of Sadi Carnot, August Horstmann, and Willard Gibbs. This connection, to keep everyone in the loop, is the synthesis that will eventually be the replacement for belief in god, the world over, in the sense that what is called Gibbs’ *formation energy* usurps what was formerly called god’s *creation energy*. Ostwald was the 2nd, following Carl Snyder (1902) to make this connection. Thims (2006) was the 9th person, historically, to make the Gibbs + Goethe connection.²

Ostwald then teamed up with Ernst Haeckel to travel around the world giving their famous ‘Monastic Sunday Sermons’, wherein like Diderot and Empedocles and before him, he preached scientific atheism, in Ostwald’s case energy-based atheism. He also, of note, one the 1909 Nobel Prize in chemistry, for his work on catalysis.

This gives us a basis historical of the state of the affairs in German, during the period of Kolbe (1865), and his Bible chemistry classroom quotes, to Wislicenus (1885), and his Bible quote free chemistry classroom, to Ostwald (1905), who basically co-founded physical chemistry, along with his cohorts Walther Nernst, Jacobus Hoff, and Svante Arrhenius.

What concerns us, in respect to abioism, is the opening found in the opening quote to this chapter. Ostwald says that he is ‘made from a CHNOPS combination’, by the workings of the atheistic energies of the universe. This is all cogent and particularly progress thinking for the year 1926.

In respect to terminology, we see that this quote was printed in a book entitled *Lifelines: an Autobiography* or in German *Lebenslinien. Eine Selbstbiographie*. The key words of interest for us, in respect to the German words of Roose and Ostwald, are the following:

Leben [German] = Life [English]

Lebende natur [German] = Living nature

Library [English] = Βιβλιοθήκη [Greek] → Pronounced ‘Vivlio-thiki’

Lib [Proto-Germanic] = body, life

Ad-lib [English] = {abbreviation of} ad libitum [New Latin] = **speak** freely, improvise, at will

Θήκη [Greek] → Pronounced ‘thiki’ = Case, box, or chest

Labios [Spanish] = **Lips**

Bio = 282 [isopsephy] = diameter of 888 circumference unit circle

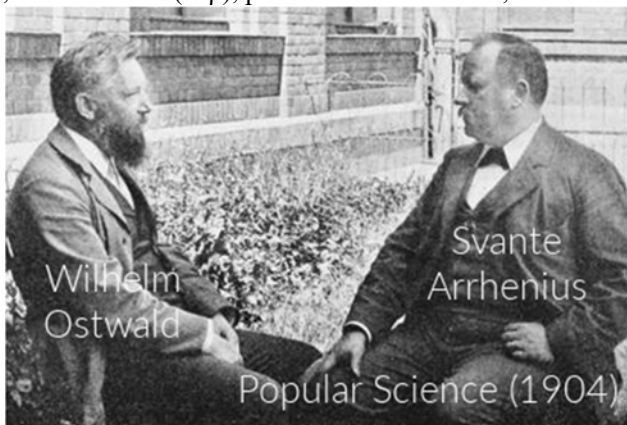
The deconstruction of the Proto-Germanic word ‘lib’, back into Latin and Greek (and Egyptian) is presently classified as hypothesized or theoretical etymology.¹ From the above, however, we do see that the English word library, renders in Greek as Βιβλιοθήκη, which is produced, in Greek, not with B-sound but with a V-sound, namely viv-leo, similar to the term ‘vivacious Leo’ (lion). Hence, the original Greek 800BC Biblios (βιβλος) cipher, which renders as book, bible, or pi (3.14), seems to render above as ‘spoken word of god’, as seen in the Spanish word *labios*, meaning: ‘lips’. Thus, the Greek bib (Βιβ), pounced ‘viv’ in Greek, became the Latin ‘Lib’, the Spanish ‘Lab’, and the German ‘Leb’ prefix, which see in the German words ‘leben’(life), lebende (living), and lebenskraft (life-force), and subsequently the modern English word LIFE.

Now, in respect to Ostwald’s views on the origin of life, he seems to not have focused on this sideline topic, as he was already heavily involved with battling ‘god theory’ to the point of losing his job. Again, a person can only battle so much, intellectually in one generation.

We do, however, that in 1903 there was some kind of origin of life debate, the leading conclusion of which being the view of Svante Arrhenius, who argued that life, in the form of spores, might have been carried to earth by way of meteors, from another planet.

The meteoroid origin of life theory, itself, arose in the 1834 conjectures of Jacob Berzelius, a Swedish chemist, who had obtained samples of the Alais meteorite, which was a meteorite that had fell near the town of Alais in France in 1802, and subjected them to chemical analysis, and found the presence of carbon, symbol: C, compounds, which to Berzelius meant ‘life’.⁴

Ostwald and Arrhenius are shown adjacent, in a photo from a 1904 article in *Popular Science Monthly*, discussing science. We might assume, in theme with the line of thought presented in this book, that they were discussing whether or not ‘life’ was inside of the carbon atom, or the secret atom of life, as Berzelius had postulated, and concurred with each other that the answer was negative, with Ostwald telling Arrhenius, like Wislicenus, ‘that [word alive] must go’!



Synopsis: Ostwald defined himself as a CHNOPS+ combination, synthesized by the universe. In this new view Bible and biology do not fit.

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3. https://en.wiktionary.org/wiki/Reconstruction:Proto-West_Germanic/l%C4%ABb
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Homework problems

“Being a writer is like having **homework** every night for the rest of your LIFE.”
— Lawrence Kasdan (c.1980), *Star Wars* films screenwriter

Section point: A selection of famous abioism-themed homework problems. [length: 2-pgs]

In 1997, Sture Nordholm, a Swedish physical chemist, in his article ‘In Defense of Thermodynamics: an Animate Analogy’, published in the *Journal of Chemical Education*, outlined the subject of what he called *animate thermodynamics*, a term then-conceived as physico-chemically neutral term alternative to what had previously been called ‘life thermodynamics’ in the previous century.¹ Nordholm’s *animate thermodynamics* terminology was an original inspiration for Thims towards life terminology reform, as per chemical thermodynamics sees things.

Nordholm’s aim in this article was to apply thermodynamics to the humanities, touching on residual questions, such as evolution. Nordholm concluded his article with eight homework problems, designed for students to solve, as take-home exercises for the mind. Nordholm’s eighth question employs the term ‘life’. Nordholm’s 8th question is listed below, along with his appended ‘comments’, given as clues on how to solve the problem. We have included a few others, e.g. the ‘library walk problem’ (1992) of Jaegwon Kim, listed chronologically.² These homework problems derive from the growing online Hmolpedia collection of 40+ famous historical homework problems.³

H1. Nageli: Do molecules feel? (1877)

In 1877, Carl Nageli, a Swill-born German botanist, in his ‘The Limits of Natural Knowledge’, asked the following question:

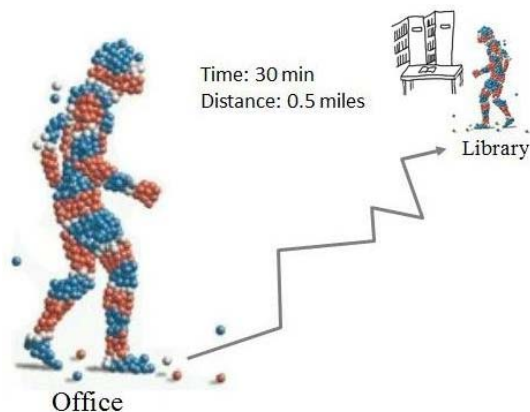
- Question: Do molecules feel something which is related to sensation?

This through provoking question, which was commented on by James Maxwell, attempted to digress on happens to conceptions such as consciousness, sensation, mind, will or free will, pain and pleasure, etc., when one begins to descend down the evolutionary ladder to the atomic origin level. What is your answer to the question?

H2. Kim: Library walk problem (1992)

In 1992, Jaegwon Kim, a Korean-born American physicalism philosopher, in his ‘Downward Causation in Emergentism and Nonreductive Physicalism’, presented the following scenario and question:

- Scenario: It occurs to you that you need to check a few references for an article you are writing, so you decide to walk over to the library after your office hours. Miracle of miracles! In half an hour, you find your body, all of it, at the front steps of the library, half a mile away. Think of all the molecules that make up your body: each of them has traversed the half-mile, zigzag path from your office to the library, and your whole body is now where it is.
- Question: What explains the spatial displacement of your body from the office to the library? What caused the motion of each and every molecule of your body over the half-mile path?
- Clue: Read what James Joule (1847) has to say on inertia.⁴



Answer this question, abioistically, i.e. using physico-chemically neutral terminology, based on universal principles, without employing *anthropism* (Sherrington, 1938), as best you can.

H3. Nordholm: Life vs *lifeless* on the thermodynamic scale question? (1997)

In 1997, Sture Nordholm, in his article ‘In Defense of Thermodynamics: an Animate Analogy’, asked the following question (with comment):

- **Question:** Thermodynamics is often applied to the evolution of *life forms* on earth. Critics have opposed such applications, arguing that thermodynamics only become applicable when, for example, an animal dies. Which side of this argument do you favor? Why?
- **Comment:** the very 'definition of life' in distinction from *lifeless* existence seems capable of generating interminable argument. Perhaps the scale is continuous and divided into life and lifeless only by personal predilection. Where on such a *continuous scale* would thermodynamics cease to be relevant?

Answer Nordholm's question. The continuous scale he mentions, can be seen in the online examples of the historical *great chain of being*, the online molecular evolution table, hydrogen-to-human reaction model, or the *particle physics* to big bang to *partial belief* system minds of humans biased scheme of things.

H4. General abioism problems

The following question[s] have been added by Thims specifically for this book:

- **Problem:** Rewrite the Lawrence Kasdan homework quote, seen in the opening of this section, using the *abioism*-friendly or physico-chemically neutral (PCN) terminology, either of your own invention or using terms from the Abioism Glossary.

Readers of this book are encouraged to answer these questions, in the form of a short essay, based on first principles, using physico-chemically neutral terminology, e.g. terms from the Abioism Glossary. The reader is also encouraged to answer these questions in the form of a classroom presentation and or a YouTube video presentation, so that your answers can be discussed in public.

Synopsis: Do your *homework*, for the benefit of your own mind!

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(b) <https://eoht.info/page/Library+walk+problem>
3. https://hmolpedia.com/page/Homework_problems
4. <https://hmolpedia.com/page/Inertia>

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The following is an index (under-construction) of *key terms* and *key names*, which can be compared to their online Hmolpedia key term¹ and key people² rankings:

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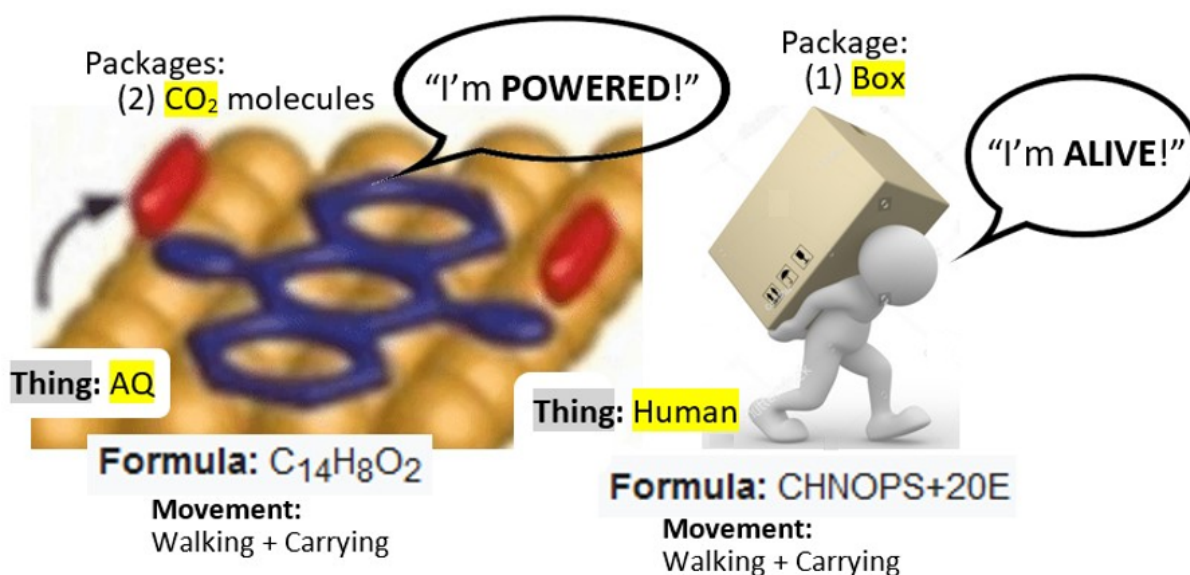
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1. https://hmolpedia.com/page/TL_terms
2. https://hmolpedia.com/page/TL_people

“Exact knowledge is the enemy of *vitalism*.”

— Francis Crick (1966), *Of Molecules and Men: Is Vitalism Dead?* (pg. vii)

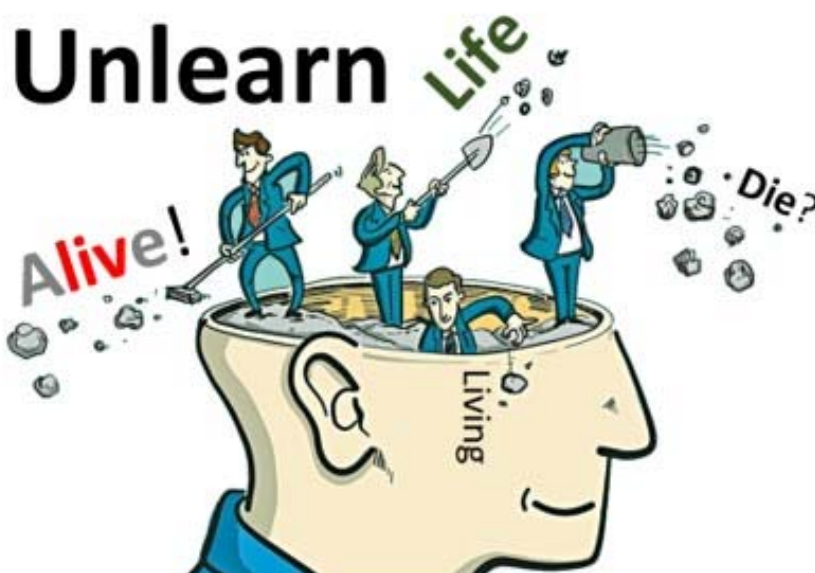


“Not only do I not believe in the principle of the *afterlife*, but also do not believe in the *principle of life*.”

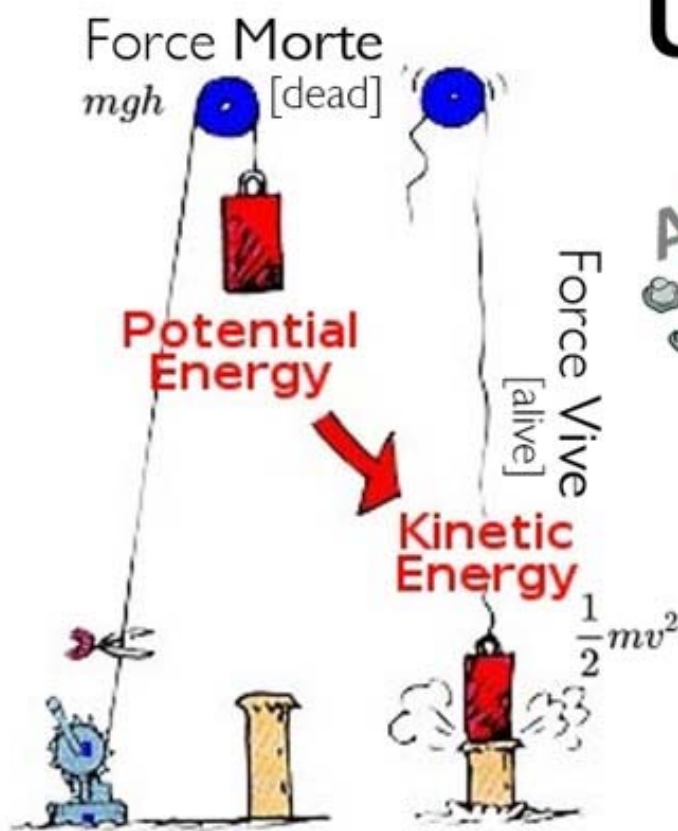
— Libb Thims (2012), personal note; written with black pen on printing paper, Sep 24

In 445BC, **Empedocles** said that 'birth' and 'death' do not exist. These terms mean only the coming together and later separation of the four elements. **Alfred Lotka** (1925) said that a scientist who attempts to defined 'life' is a Jabberwock hunter. **Charles Sherrington** (1938) stated that life is an *anthropism*, **not** recognized by physics and chemistry. **Francis Crick** (1966) advised that we should abandon the word 'alive'! In the wake of Gilbert Lewis' *Thermodynamics and the Free Energy of Chemical Substances* (1923), wherein each chemical 'species', hydrogen to DNA to human, is defined by a Gibbsian 'formation energy' ΔG_{298}° , the concept of 'life', and what it means to be *alive*, thermodynamically, has completely fallen through the drain pipes of reality.

In the last two decades, a half-dozen people, including: Alfred Rogers (1990s), Jonathan Dowling (1998), Thims (2007), Ferris Jaber (2013), Jiri Benovsky (2017), among others, have published views stating to the effect that '**life does NOT exist**' and or that no thing in the universe is alive. This book is a summary of this newly-developing philosophical view, called: '**abioism**', meaning disbelief in the existence of life, and the ramifications of this new view, in respect to terminology upgrades, and belief reform implications.



In 1853, William Rankine related **dead force** with 'potential energy'. In 1862, William Thomson related **alive force** with 'kinetic energy'. Herein, in continuation of this terminological reform, we are replacing **biology** with 'chnopsology', along with 75+ other defunct term upgrades, listed in an **Abioism Glossary**. Learn and unlearn.



Libb Thims is an American electrochemical engineer, chemical thermodynamicist, physico-chemical humanities philosopher, and *abioist* atheist, noted for his work in the development of **human chemical thermodynamics**, the chemical thermodynamic study of people. He is the founding editor of the *Journal of Human Thermodynamics*, active 2005 to 2015, author of *Human Chemistry* (2007), *The Human Molecule* (2008), and Hmolpedia.com, a 6,000-article wiki encyclopedia. In 2015, Thims coined 'abioism', meaning disbelief in the existence of life.

